SBN 7235 0062 2

THE DR WHO annual

THE DR WHO
annual

Starring:
JON PERTWEE
as DR. WHO
CAROLINE JOHN
as LIZ SHAW

Based on the popular
Television Series

By arrangement with
BBC tv

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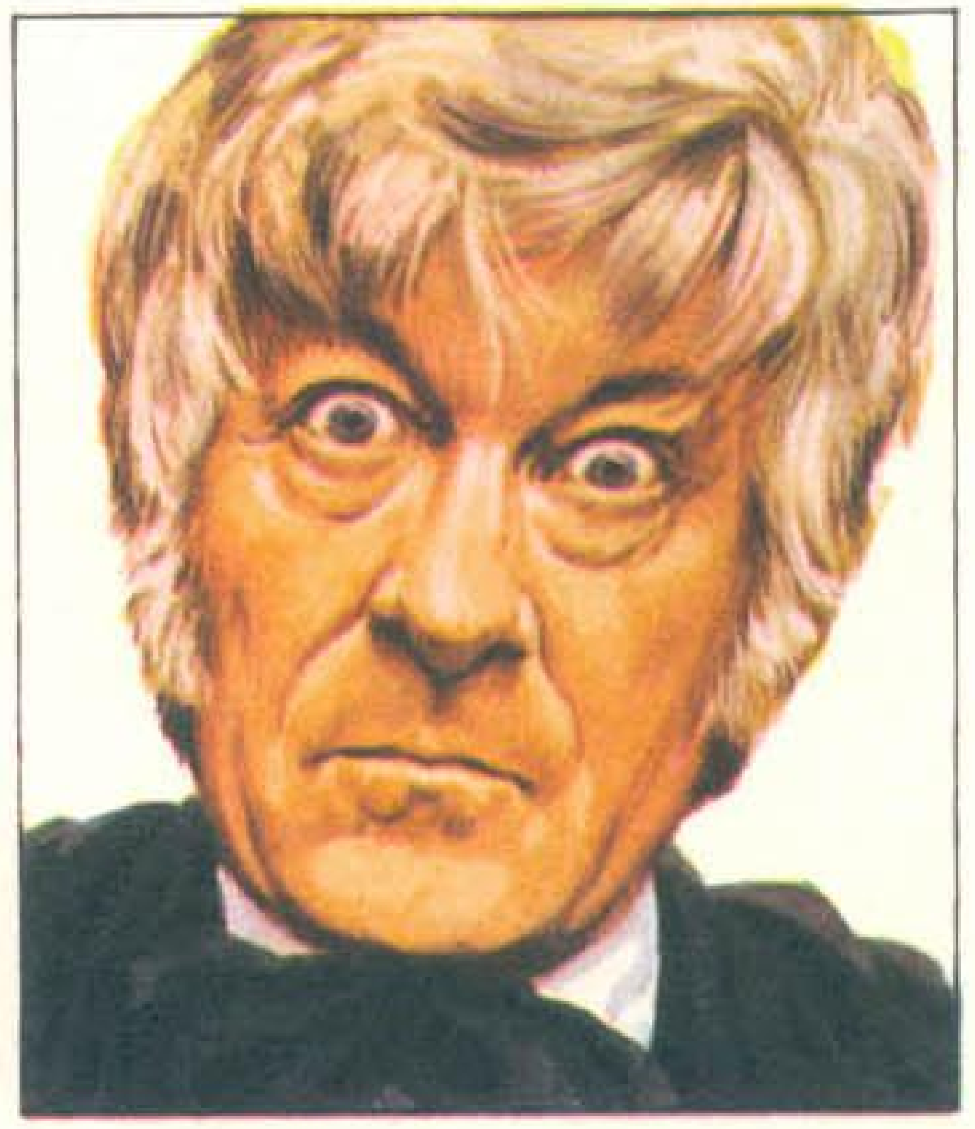

THE
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annual

THE MIND EXTRACTORS

AS always when Fred Thirket was driving, the No. 59 Pay-as-you-Enter 'bus left Buley dead on time. Never behind schedule, unless something startlingly untoward occurred, was Fred.

It was his last run, and a week night, so passengers were few. The road was quiet. His windscreen, if he cared to glance up through it as he released the doors, showed a sky full of stars.

He had his passengers taped. Knew exactly where they had got on, where they should alight.

The woman two seats back on his left, for instance, already gathering together her bags, wanted the Allotments. That would be the stop after next.

Fred applied his hand to the brake, and picked up a tousle-haired youth in a duffle coat. Two men alighted. The 'bus moved forward again.

Fred looked sideways for the dark, steeply-climbing wasteland next to the Allotments, at the top of which, hidden behind trees and an old wall, was the mental hospital.

It was the woman rising to stand by the Exit door that gave him an unimpeded view of the man in the third seat back, sitting where a moment previously no man had been. That was queer. Fred had not seen him get on. Certainly had not issued a ticket to him. He wouldn't forget a face like that!

Fred's amazement and indignation grew, for the man had a white tube between his lips, and smoking was not permitted, not at the front of these single-deckers, as a large-enough notice stated.

Fred opened his mouth to remonstrate as smoke began trickling from the rubbery lips. And his mouth remained open, for man and other passengers had vanished into the smoke that was fast filling the 'bus. Surprisingly there was no coughing. Fred clamped on the brake as the pall enclosed him.

P.C. Voskins, enjoying the exhilarating December night, began an easy ascent of the steps that were a short cut up the side of the Allotments to the back of the hospital.

He paused midway for a view of the dark hills around. Made a pleasant change from the town beats he was used to. Not a breath of wind. No wonder he had had such a clear view of that shooting star a while back. Did shooting stars usually have orange tails, he wondered.

P.C. Voskins took in a deep breath of the keen air, and his nostrils twitched. Something burning? His eyes raked the hut-dotted plots for a bonfire left smouldering. Not that it could do any damage with the ground still sodden from last week's rain.

Still he had better take a walk around.

It was the dead fox he stumbled over that halted him and led to his discovery of the singed grass and vegetable tops extending over several plots. But no bonfire – and the fox itself, rough, red coat scorched, was already stiffening.

What could have happened here?

P.C. Voskins looked at his watch. He had better tell the sergeant of this when he reported in from Police Box No. 14 opposite the Bingo Club.

He re-climbed the steps, intending to take the unmade road at the top and then descend via Westmount and Moyle Road to the Bingo Club, as instructed. But opposite the wasteland, right under the hospital wall he began to feel very uneasy. He couldn't say exactly why, but his uneasiness increased until he, P.C. Voskins, felt almost frightened.

His walkie-talkie was not supposed to take the place of his calls from a Police Box. However, on this occasion . . .

His sergeant lent a decidedly irritable ear to his complaint.

"There's this scorched area, sir."

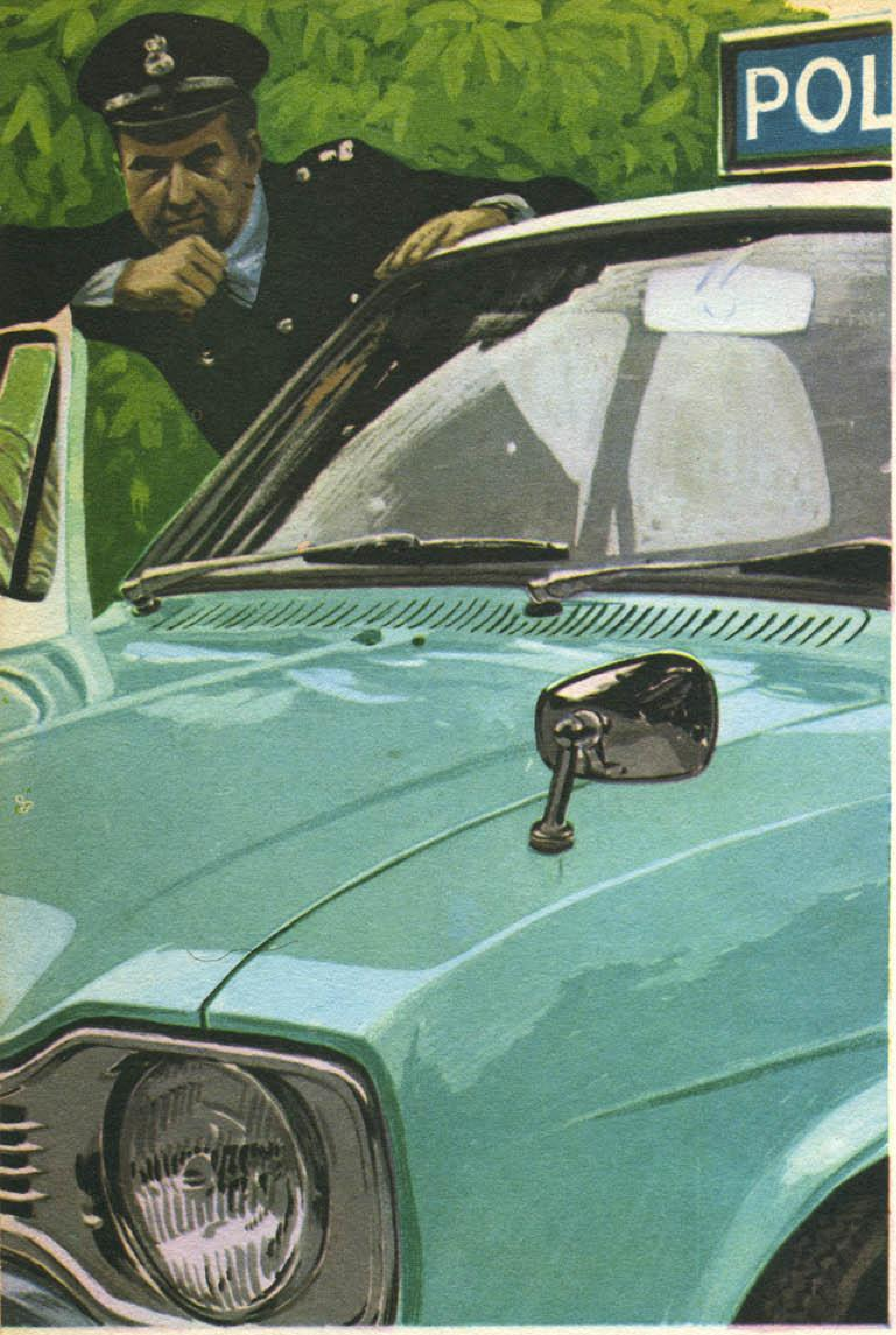
"Youths, probably – up to their tricks."

"There's no sign of trampling or other damage, sir."

The sergeant blew exasperation loudly down his nose. "All right, I'll send someone out to collect your fox. I'd better have it examined. You wait there."

But when P.C.s Allenbury and Garter arrived at the Allotments, P.C. Voskins had not waited. In fact he was picked up an hour later wandering vacantly around the grounds of the Art College.

Asked what sort of a policeman he thought he was, he stared bewilderedly and enquired: "What's a policeman?"



"You can see every star there is tonight, miss."

Liz Shaw, craning forward in her eagerness to be at her destination, nodded. "Is it far now?"

"The Allotments, miss? No, just along here past the Art College. The Allotments are right on the edge of the open country. If it wasn't for the college, you'd be able to see the 'ills."

The taxi sped on, and Liz didn't see the 'ills because, like the driver, she was staring at a man waving them down from the side of the road.

"E's 'opeful if it's a lift e's after," snorted the driver.

The man's face came close as the driver wound down the side window.

"Wot's wrong, mate?"

Uncontrollably Liz panicked. It *was* a face, unmistakably; yet surely no human one. For it was without the solidity of natural growth. Rather more as though liquid flesh had been poured into a mould. The eyes were dull, with a very pinprick of light in their centre. From the mouth, which was two blubbery rolls, protruded a cigarette. Liz was aware of no facial hair. Such a face might have resulted from extensive plastic surgery, but this face she felt certain had not.

Smoke began curling from the cigarette.

No answer came to the taxi driver's question, and Liz yelled: "Drive on. For God's sake, drive on!"

As the taxi leapt forward, the man sprawled back. Liz saw great coils of smoke rolling after them.

The police car that had discovered the 'bus also discovered the taxi.

"Amazing," whistled the sergeant. "Not a glimmer of sense in any of them. All vacant as dolls."

"Shock, sir. That's what the doctor says it could be. Amnesia produced by shock."

"Voskins, too?"

"Seems so, sir."

"That fox?"

"They've got it in the lab now, sir."

The sergeant shook a bewildered head.

"Take that attractive girl. Not a clue why she was travelling in a taxi, let alone why it had hit a mound of builder's sand at the side of the road."

"Found a train ticket in her handbag, didn't they?"

"And a sheet torn from a telephone notepad giving her instructions how to get to the Allotments. Written by herself, it looked like. Rummy!"

A door opened. The police surgeon indicated he wanted the sergeant to himself for a moment.

"The autopsy on that young dog-fox?" he began.

"Yes?"

"Well, death definitely not due to poisoning. Nor to starvation, or burns—in the usual way."

"To what, then?"

"I don't know."

"You must have an opinion."

"Well, the fox was found on the path near the scorch marks reported by P.C. Voskins. Taking into ac-

The Ungava Crater, in Quebec Province, Canada, is the largest known meteor crater. It is 11,500 feet wide and is full of water.

count the rest of the night's events, I would say something landed on those Allotments, and the fox was probably killed by a force emanating from it."

"Do you mean a flying saucer?" demanded the sergeant.

The doctor, well aware of the sergeant's views on UFOs, swallowed. "Something like that, I imagine."

"Of all the piffling . . ."

"That other doctor—I forget his name—who turned up at the 'bus stop and was helping, he said a higher authority should be handling this business."

"Indeed! And who did he suggest?"

"UNIT."

"It's an uncanny affair all right," declared Brigadier Lethbridge-Stewart, who had just spent a painful ten minutes with Liz Shaw in the newly-completed wing of the mental hospital. Not that she looked ill or was in any way distressed by the blankness of her once brilliant mind. But not to know him! Not to show any reaction to his repeated mention of UNIT and Dr. Who.

"And where *is* Dr. Who?" he demanded of the assistant who had roused him from bed directly he had got into it. That had been in the early hours. Now it was dawn.

With daylight they would be able to examine the Allotments thoroughly.

"We're trying to trace the doctor, sir. Nothing has been heard of him at UNIT headquarters since he left to do some work on that car of his."

"Then contact the men I posted to keep an eye on him. They'll know where he is, surely."

"We've been *trying* to contact them, sir, but they don't answer."

"Then send somebody out there."

Sister Jones, who had been allocated to the new wing to look after last night's victims, came in briskly as the Brigadier's assistant went out.

"*Is* this loss of memory due to shock?" demanded Lethbridge-Stewart.

"Impossible to be sure, yet. Some of the patients, the 'bus driver, for instance, are complaining of migraine. *That* suggests shock. Miss Shaw has had an attack of giddiness. There appears to be no actual brain damage. All of them are relearning quickly: how to eat, wash . . . They remember perfectly everything that happened to them from the moment the police found them last night and brought them here for observation."

"But none of them remember anything that happened beforehand?" asked the Brigadier despairingly.

"No, which suggests they were all victims of a similar experience. The only certain information the police have is that radioed in by P.C. Voskins . . . Oh, incidentally, Brigadier, the local sergeant wants to speak to you about that."

The Brigadier nodded. If only, he fumed, Dr. Who were here. He had had more experience of the odd than UNIT and all the other Earth experts put together.

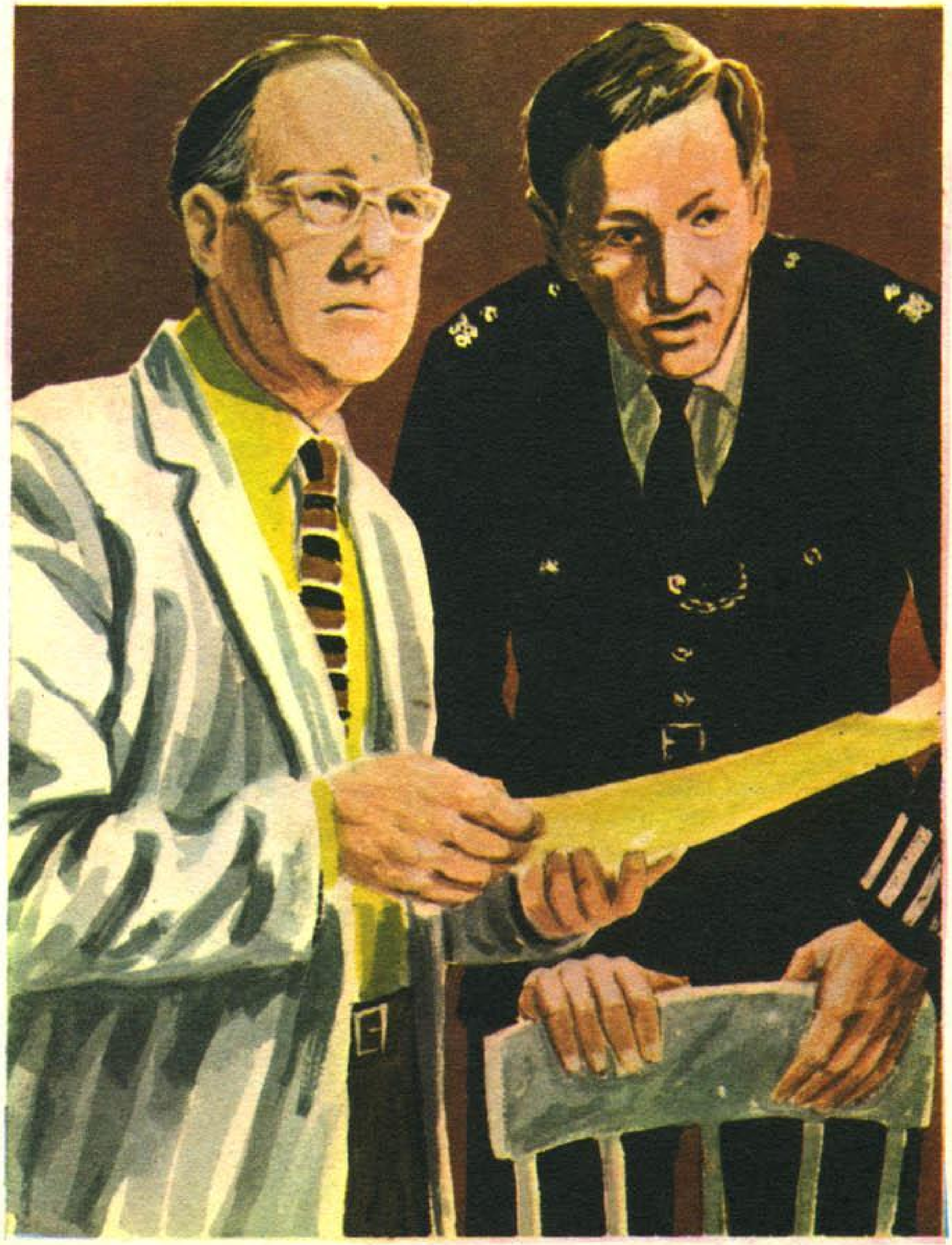
"Yes . . . ?" he barked at his assistant.

"Bad news, I'm afraid, sir. Dr. Who seems to have vanished."

"What!"

"He's gone, sir."

The Brigadier's scalp rose. "Gad, man, the doctor's got no sense of



responsibility. Never about when I want him."

It was not the most opportune moment for the sergeant to knock.

"It's about what P.C. Voskins said when he radio-ed in last night, sir."

"Fire away," groaned the Brigadier, making a mammoth effort to concentrate.

"Voskins, you see, sir, said he was radio-ing from beside an old yellow car under the hospital wall."

The sergeant had never been caught up rapturously by a Brigadier before and he found it a rather unnerving experience.

"Take me to it immediately, sergeant. Immediately!"

"Dr. Who, my dear fellow, if you're around, please come here. I must speak with you."

It was as well, a grateful Brigadier realised, that there was nothing more animate than a curious crow to watch his antics as he walked around the yellow Edwardian car, shouting for the Doctor at the top of his voice. The sergeant had been despatched back to the UNIT party preparing to set forth and examine the Allotments.

"What do you want?" said a voice crossly from behind him.

The Brigadier turned to find himself being regarded by a crumpled, tired-eyed doctor, chewing a freshly-pulled turnip.

The Brigadier gulped with relief. "Where have you been?" he demanded.

Dr. Who waved the turnip, top and all, vaguely in the direction of the Allotments.

"You'd better sit in the car and talk," he said.

"Now," said the Brigadier, when they were seated in the old vehicle, "tell me everything that happened."

"Your parts failed . . ."

"Nonsense! There was nothing wrong with the parts I supplied. Anyway, deplorable as I think your absence was, I am far too overjoyed to see you on this particular morning to argue. Blame my parts if you must . . ."

"I do, or rather I did." Dr. Who thawed somewhat. "I was driving along, I suppose about two minutes. Then—plonk! Stopped dead just beside those dreary little huts and vegetables; and went outside to discover the name of the place."

"After that?"

"I telephoned Liz, and told her to join me here. Then I set to work trying to discover what was wrong with the car . . ."

"And couldn't, or you wouldn't still be here, I suppose. Anyway, you must have seen what landed on the Allotments last night."

"I did not!" snapped Dr. Who. "Was far too busy."

"But you know what has happened to Liz and the others? You know about the burnt area?"

Dr. Who, suddenly forgetful of the turnip he was holding, nodded.

"I suppose," he said, "it all ties in with this Russian business."

The Brigadier looked startled.

"Of course *you* can't tune in to the Russian Ground Control, can you?" said Dr. Who.

"I wasn't aware *you* could."

"Just one of my little gadgets. Anyway, you know their recovery of their four cosmonauts was delayed?"

"Yes. The men should have touched down in the new landing area in Irvtusk, but there was freak weather, a storm or something."

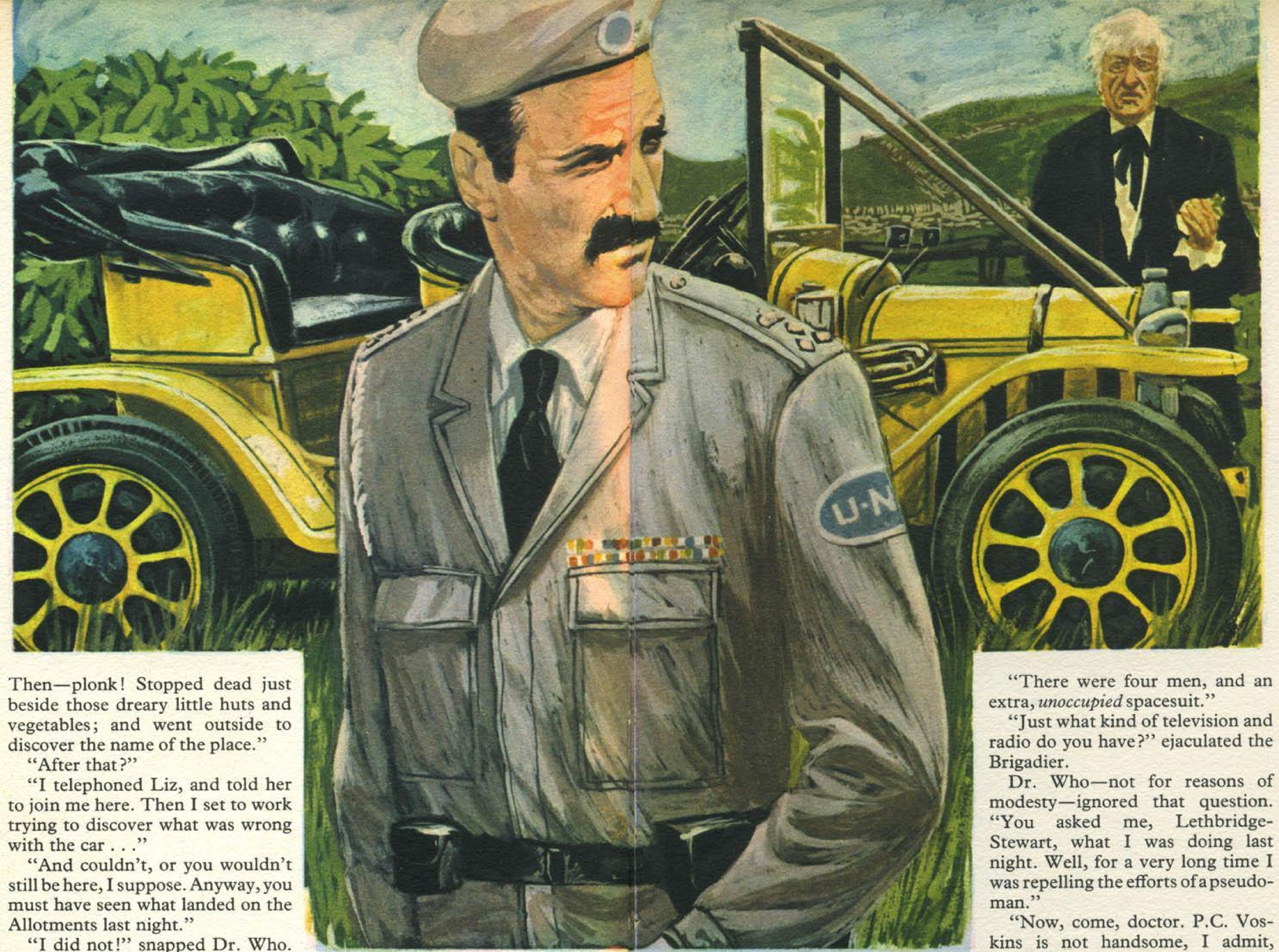
"Fog," said Dr. Who.

"The cosmonauts *were* recovered, however . . ."

"Yes, though there was none of the usual heroes' welcome for them. No drive through the capital, even. Just a glimpse of them waving from a balcony. Then fade-out."

"Rumour has it," continued Dr. Who, "that the men are in hospital suffering from shock."

"Amnesia?"



"I imagine so. The point is, who was the *fifth* cosmonaut?"

The Brigadier was fast losing himself in a fog of bewilderment.

"The last television picture the Russians received before the re-entry of their spaceship into the Earth's atmosphere showed five figures inside the cabin, not four."

"Impossible."

"The picture was an atrocious one, I admit, rather as if the ship were filling with smoke, and when the men were recovered . . ." Dr. Who paused.

"Well?"

"There were four men, and an extra, *unoccupied* spacesuit."

"Just what kind of television and radio do you have?" ejaculated the Brigadier.

Dr. Who—not for reasons of modesty—ignored that question. "You asked me, Lethbridge-Stewart, what I was doing last night. Well, for a very long time I was repelling the efforts of a pseudo-man."

"Now, come, doctor. P.C. Voskins is not handsome, I admit, but . . ."

"But he does have a *normal* face. Not a flesh blanc-mange, and I don't imagine he smokes on duty. This man was smoking prodigiously."

"You mean, what happened to the Russian cosmonauts happened *here* last night?" The Brigadier looked incredulous. "Doctor, that would mean interference from another planet. No, I'm not discounting the possibility. We realise now that Earth has probably always been under surveillance. But these pseudo-men—robots, maybe, *what* would they be after? What have the passengers of a 59 Buley 'bus and four Russian cosmonauts in common that could be of interest to another planet?"

"What are missing, Brigadier?"

"Memories . . ."

"Minds."

The Brigadier's incredulity turned to horror. "How? I mean . . . Oh, I know an American neurologist has succeeded in extracting monkey's brains, but a mind . . . that is nothing tangible."

"Not to us. All those memory coils," murmured Dr. Who. "Mine particularly. On a planet, maybe universes distant, a force, unknown to us, is poured into seemingly human moulds. A spaceship brings the pseudos. The force is released; the information beamed back to the spaceship . . ."

"This is mere speculation."

Not very graciously, Dr. Who admitted the fact.

"Nevertheless, a great deal could be learnt that way, certainly from a mind like mine. Things I myself have consciously forgotten at present," he added, regretfully.

"Did you see what became of this cigarette-smoking pseudo?"

"I flatter myself it retired thwarted. Unhappily it went in search of other prey. I have never before been in such danger of penetration by a malignant force."

The Brigadier wondered just what kind of a struggle there had been. To the doctor's request that he be allowed to 'borrow Liz' he acquiesced enthusiastically. If anybody could help her . . .

They went to join the UNIT crew, waiting by the Allotments gates. "We'll have exhaustive tests made; we'll . . ." The Brigadier paused. He realised suddenly that the doctor was no longer beside him.

The doctor, in fact, having made a somewhat unorthodox entry into the hospital grounds, was hurrying between the trees to the now partially-occupied new wing.

Liz Shaw, who, like the other victims of last night's events, was not confined to bed, watched him approach.

"Good morning." Dr. Who smiled tentatively.

Politely she repeated, rather than

returned, his greeting, but with no consciousness that she ought to be glad to see him, or indeed that she had ever seen him before.

“My car is over the wall,” said the doctor hopefully.

She looked at him blankly.

“Nasty experience you must have had. Remember anything about it? A chap puffing a cigarette, maybe?”

Complete bewilderment.

“Thought I’d do down on the road, where your taxi hit that sand heap. Like to come with me?”

Dr. Who had little hope that the scene would enable her to recall anything. Even so, nothing that might help must be left untried.

Gently he took her arm and led her out of the hospital grounds and over the wasteland reserved for building. He spoke of UNIT, past adventures together, the Brigadier . . . All was of no use. Beholding this vacancy where once intelligence had sparkled, Dr. Who felt a great despair and guilt. For was it not because of him, to meet him, that she had come to the area?

Dr. Who guided her across the Buley Road. “There’s the sand your taxi demolished before running into the bank.”

Liz said nothing.

“So your encounter with my cigarette-smoking antagonist—*if* you had one—must have been back here somewhere.”

Once more he was helping her over a desolation of future building land. “Now this stretches to the railings of the Art College.” He found her an upturned bucket and suggested she sat on it while he poked round a bit. Shivering a little, she complied. Then, hearing him exclaim, and seeing him rush this way, that way, and finally bolt into the bushes against the railway bank, she started curiously after him.

He was on his knees beside something, and Liz craned over to see. Her scream startled a nearby blackbird into flight.

“You remember this?” exclaimed the doctor.

Though her expression was distressed, she shook her head.

As he lifted that which he had found, she retreated hurriedly.

“No need to be afraid. It’s harmless as a spent firework. Come, I’ll carry it back to the car. Take it to the laboratory. See, it’s no weight at all. Still looks human, though, doesn’t it—except for the face? You’re going to help me find out what it is made of, how it worked . . .”

He slung the thing over his shoulder, and, hoping fervently that he would encounter nobody who would ask awkward questions, he re-crossed the road.

Liz followed him obediently.

Once they were inside the room where he conducted many of his weird experiments, Dr. Who laid the thing on his examination table. The blubbery lips in the shrunken face were shapeless and wrinkled as a deflated balloon. The pinpoint of light had gone from the eyes. The clothes—a most realistic suit and raincoat—were hanging on what Dr. Who suspected was a fast decomposing body.

Liz did exactly as he asked. Handed him instruments, flicked switches, but would not closely approach that with which he was so occupied.

“Never come across anything as ingenious as this before. It was the broken-off tube, the thing that looked like a cigarette, that made me realise the body might be around somewhere. Remarkable!” With some exclamations, but mostly in silence, he worked on.

Dr. Who looked up at last and saw that outside it was growing dark. Incredible! He had better take Liz back to the hospital or, despite the Brigadier, there might be a hue and cry.

“Going to be foggy,” he said.

He left her in the brightly-lit, gaily-carpeted hallway of the new wing, and then, before anybody bothersome should recognise him, he hurried back to his experiment. Just a final examination, and then he would admit the Brigadier to his discoveries.

As he stepped inside the room Dr. Who’s eyes went at once to the examination table. Empty!

“Good evening, doctor. I hoped you would return—alone.”

Dr. Who had unpleasant foreknowledge of whence the voice was coming. He had left the pseudo still shrinking, decomposing on the table. Now, as his startled eyes saw, the pseudo was sitting upright in the doctor’s own chair.

“You’re looking much better,” he said uncomfortably.

Indeed, the flesh, like the lips, was full again. The pinpoint of light was back in the eyes.

But, of course, as the doctor well knew, although the voice seemed to be issuing from the pseudo-man, in reality it was coming from outside. Maybe from the spaceship that had carried the thing to Earth. More likely from a planet galaxies away.

“There has been time to refuel, recharge, doctor.”

Dr. Who started. Had something from outside managed to penetrate this room, then?

“Do not be alarmed,” said the voice, expressionless but articulate. “The Extractor knows what is needed, and inside your laboratory found the necessary energies. It is in the subtle combining of these that its secret lies.”

The doctor see-sawed between two emotions. Bitterly he admitted his folly in leaving the pseudo alone. At the same time, he felt all the old excitement at witnessing something before unknown to him.

“Left where it had crawled when injured—you exhausted the Extractor dreadfully, doctor—it would have completely and rapidly rotted away. All your Earth people would have found was a suit, a raincoat . . .”

Dr. Who remembered the empty spacesuit in the Russian ship . . .

“Was it because of *your* ship my car stopped dead?” he demanded. “I’d like to know, because if those parts the Brigadier supplied . . .”

“We attracted each other, doctor. Your vehicle was unusual, and we instantly suspected that it contained something special. Ordinary minds are interesting, brilliant ones are fascinating. I am glad we shall be able to extract yours after all. It will be the jewel of our collection.”

“You haven’t got it yet,” bit the doctor.

There was an imitative laugh that curdled his blood.

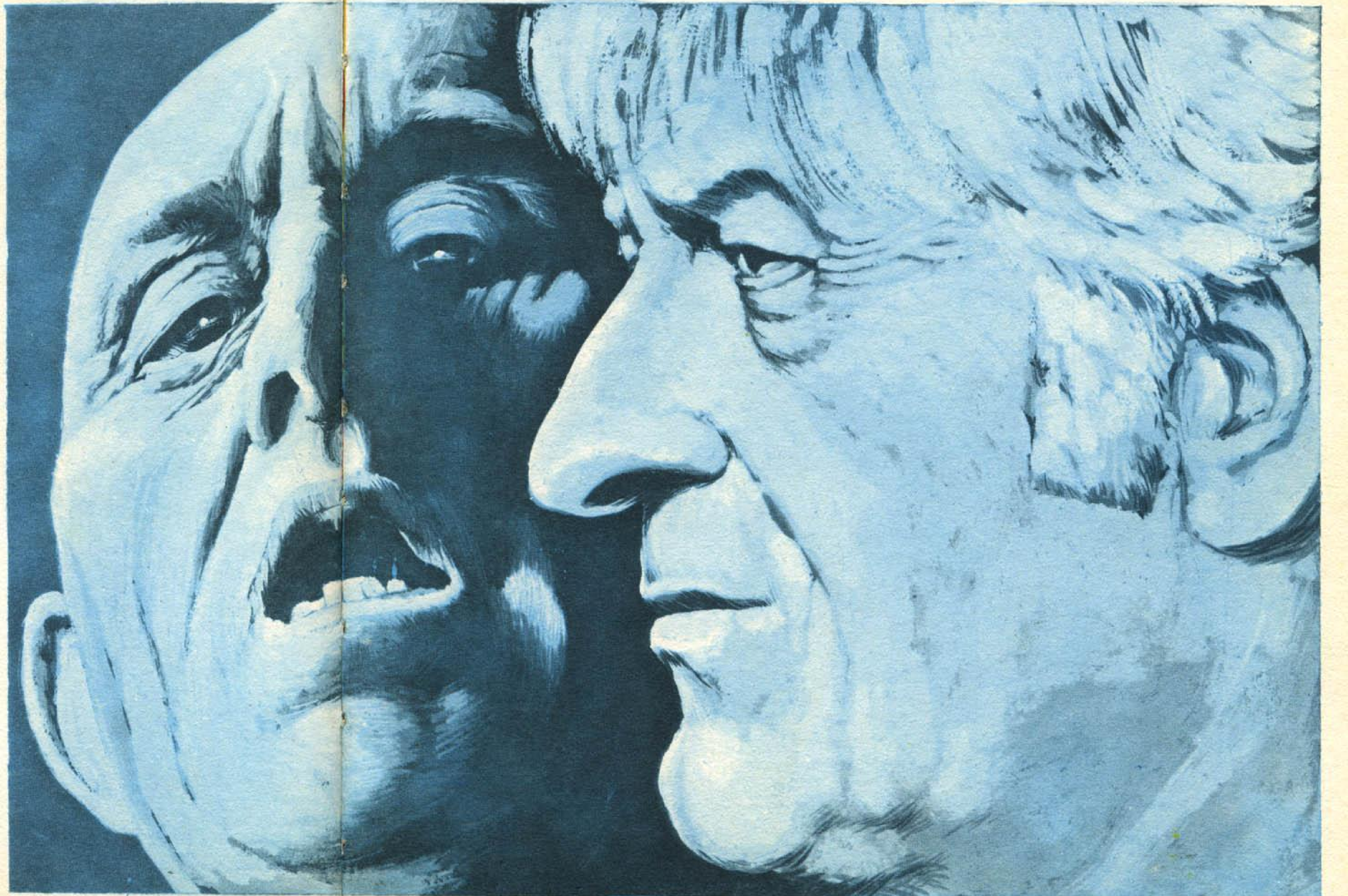
“You think you can escape. Look carefully at the Extractor, doctor.”

Dr. Who looked, and saw that the blubbery lips were pulsating ever so slightly.

“Look at the eyes, doctor.”

Their glittering intensity made the doctor instantly shield his own.

“No, doctor, there is *no* escape. All that knowledge you have accumulated will be ours. Ah, don’t look so contemptuous. A short-cut



is a short-cut, whether across an Earth field or across vast centuries of knowledge. Why, when we land on a planet, should we waste time finding out things for ourselves, when we can collect minds that have done the work for us? And not only in the field of science.

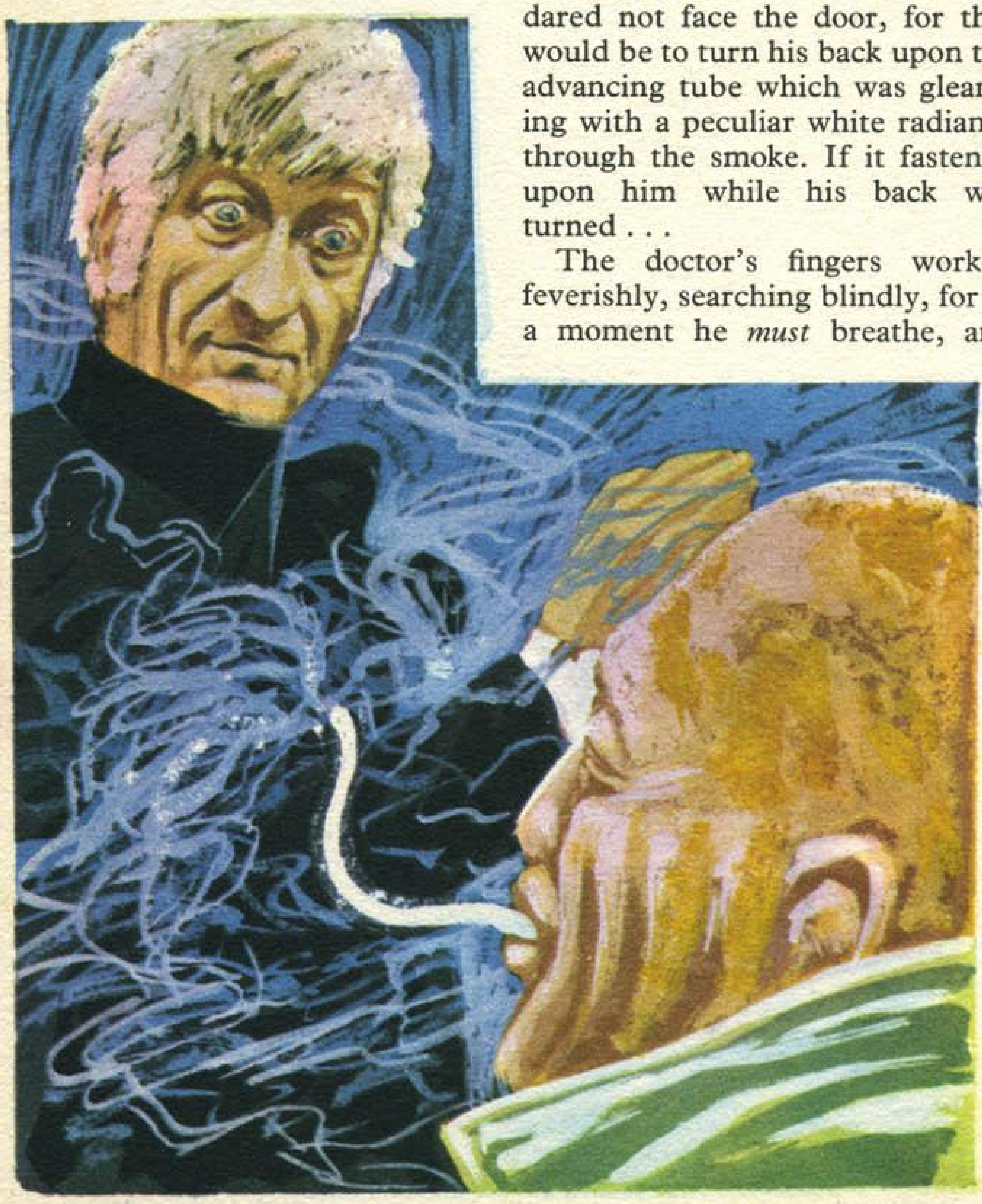
"In the past we sometimes made mistakes. Too much force was applied, and permanent damage ensued. That is why the clever so often became suddenly deranged. Now we are more practised. The extraction is painless, the force itself being an anaesthetic."

The doctor was remembering one point of this conversation particularly. "You said the Extractor was damaged last night?"

"By a fall."

"Before or after it had accosted the taxi?"

There was a moment's silence. Then: "It was too spent to pursue the vehicle and complete its work."



Liz was suffering from nothing worse than temporary amnesia, then! From that she would surely recover. He himself... Then bleakly he remembered that he would be only an empty drum.

"Let us begin, doctor. Our spaceship is waiting."

The Extractor had risen and, fascinated, the doctor saw a white tube emerging from between its lips. He backed away. Still the tube continued to grow. No longer did it look like a cigarette; more like a quivering length of spaghetti. Smoke began to curl from the tube ... It was actually seeking him.

Once it fastened, leech-like, upon him, he would be trapped.

Smoke was rapidly filling the room. Dr. Who's blood was pounding in his blackening head; his lungs were bursting, but he dared take in no more air.

He backed towards the door. Feverishly his fingers groped. He dared not face the door, for that would be to turn his back upon the advancing tube which was gleaming with a peculiar white radiance through the smoke. If it fastened upon him while his back was turned . . .

The doctor's fingers worked feverishly, searching blindly, for in a moment he *must* breathe, and then it would be all over for him. When the tube was within half an inch of his exploding head, he found the door handle and wrenched open the door to safety.

It was half an hour later when Dr. Who, with some assistance, staggered into the hospital, his hand to his head.

"My dear doctor, what has happened?" exclaimed Brigadier Lethbridge-Stewart.

Sister Jones, producing a thermometer, shrugged. "One of the porters found him wandering in the grounds. Thought he'd better bring him in."

The Brigadier seized the doctor's cold hands. "Doctor . . ."

Dr. Who stared at him vacantly.

"He's just like the others, isn't he?" whispered the sister.

"Oh, my God!" whispered the Brigadier. "Never mind, old fellow; we'll look after you here on Earth."

"Where else would you look after him?" said the sister tartly. "On Jupiter?"

The doctor had closed his eyes; now, on feeling a cold compress on his forehead, he opened them.

"Th-thing . . ." he muttered.

"Yes, old chap, *we* know. You just take it easy. You'll be all right.

"At least you'll never know the ghastly thing that has happened to you," he muttered under his breath.

"I—I know very well," said the doctor unsteadily. "Stop fussing, Lethbridge-Stewart. Th-that Extractor thing inside the laboratory. It can't get out. Will spend itself like it did yesterday. Just be his suit and boots left by tomorrow night . . ."

"His head," said the sister, tapping her own significantly.

"Th-that's right, my head. That fog. Not real fog, you know. Something to do with their spaceship. Couldn't see an inch. Fell over a tree root or something and hit the wall. Knocked myself out, I think. Everything fuzzy. Clearing now. Must tell you—Liz's mind is not extracted . . ."

"No, sister," said the Brigadier firmly, "it's not him who needs those aspirins; it's me!"

U
S
A
UNITED STATES

ROCKET RANGE

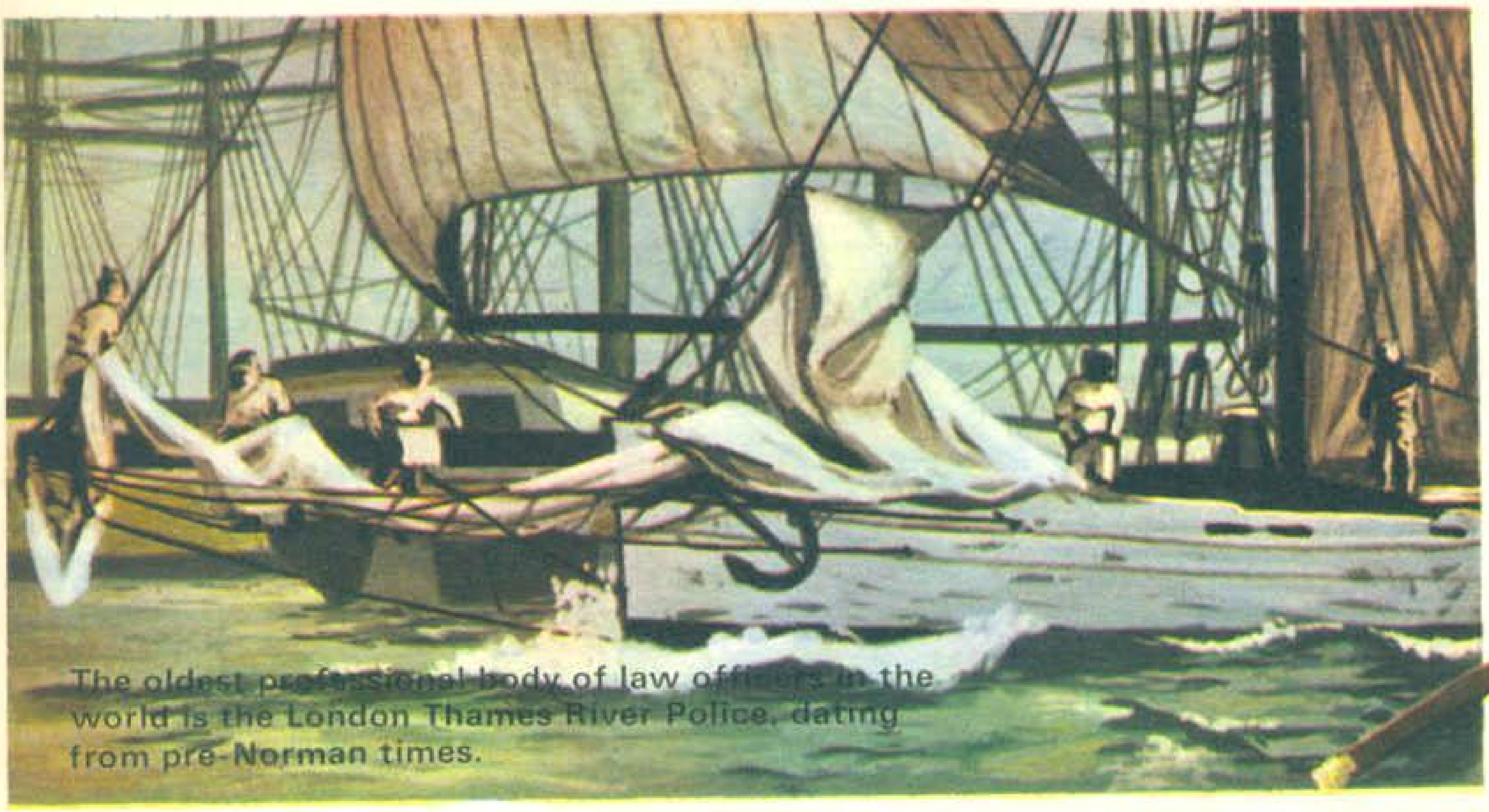
Rockets have been used in many ways since their invention, which is accredited by several scientists to the Chinese in the thirteenth century. Can you rocket yourself to the top of the class by answering all the following questions correctly:

1. Can you name the man who pioneered the first British military rockets in the early eighteenth century?
2. When, and where, was the first liquid-fuel rocket launched?
3. What was the name of the first rocket car?
4. What is the name of the Australian rocket range?
5. What is the name given to a large rocket carrying a smaller rocket on its nose, both rockets forming a single unit?
6. What was the name of the first high-altitude sounding rocket designed and built in the United States?
7. Can you name the first rocket-powered aeroplane which made the first supersonic flight in October 1967?
8. Who was the Russian scientist who published a paper on the theory of rocket action in 1903?
9. What is the name given to the substance that mixes with the fuel in a rocket, supplying the oxygen for the fuel to burn?
10. What is the name given to a rocket that fires in the direction a spacecraft is moving to slow it down?

ANSWERS

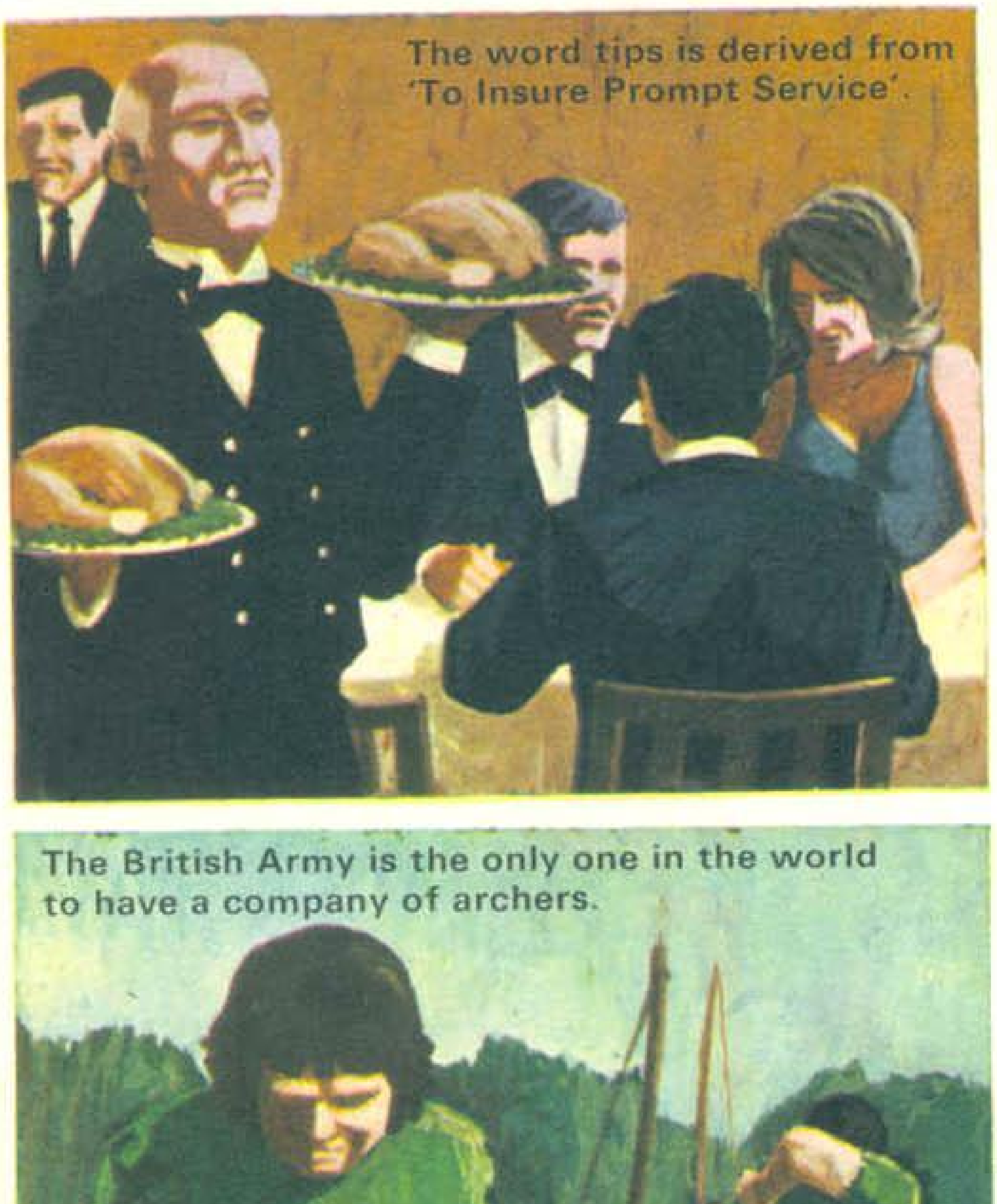
1. Sir William Congreve. 2. On 16th March 1926, at Auburn, Massachusetts, U.S.A. 3. Opel Rak. 4. Woomera. 5. Booster. 6. WAC Corporal. 7. The Bell X-1. 8. Konstantin Tsiolkovsky. 9. Oxidizer. 10. Retrorocket

DID YOU KNOW?



The oldest professional body of law officers in the world is the London Thames River Police, dating from pre-Norman times.

The bagpipes are not a Scottish invention. They were mentioned in the Bible and 200 years before Christ they were played in Asia Minor.



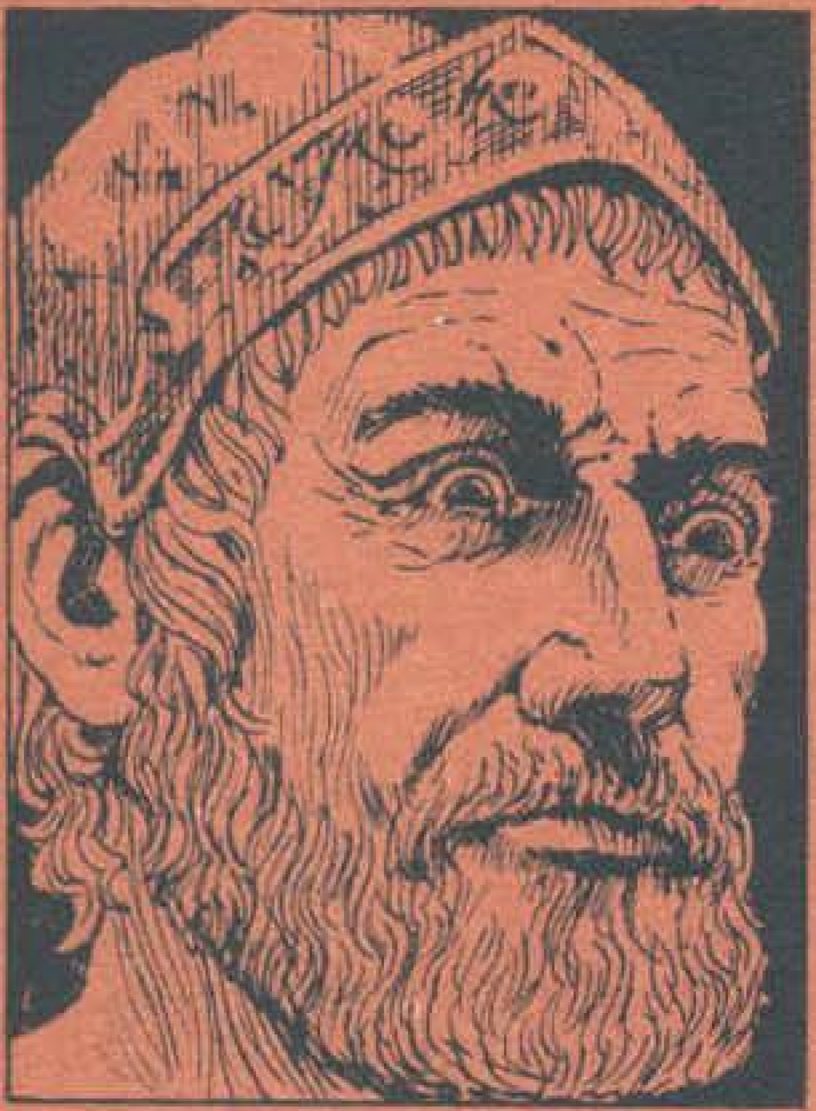
The word tips is derived from 'To Insure Prompt Service'.

The British Army is the only one in the world to have a company of archers.

The nickname for the British soldier – Tommy Atkins – originated in the First World War. Paybooks were issued to recruits, and to illustrate how they should be filled in the War Office used the name Thomas Atkins in the appropriate places.

The pineapple is not an apple and it doesn't grow in a pine tree. It is actually a berry.

THE PLANET PEOPLE



PLUTO

Pluto was the god of Hades, and his kingdom was the Underworld of the Dead. Because men knew that they would all have to make the journey to Hades at the end of their lives, Pluto was feared as well as worshipped.

He possessed a magic helmet which rendered the wearer invisible, and he was willing to lend it to anyone whom he liked. He ruled his kingdom strictly, but justly, but he hated to accept advice from anyone, even from his brother Jupiter, King of the Heavens.

One day, he saw Persephone, the daughter of Ceres, the Earth Mother, playing happily among the spring flowers, and Pluto immediately fell in love with her. Before the beautiful maiden could call for help, he had spirited her away to his Underworld home, where she pined for her mother and refused to eat.

Ceres searched the world for her daughter, and when she finally discovered where she was, Ceres begged Jupiter to help her to get her daughter back.

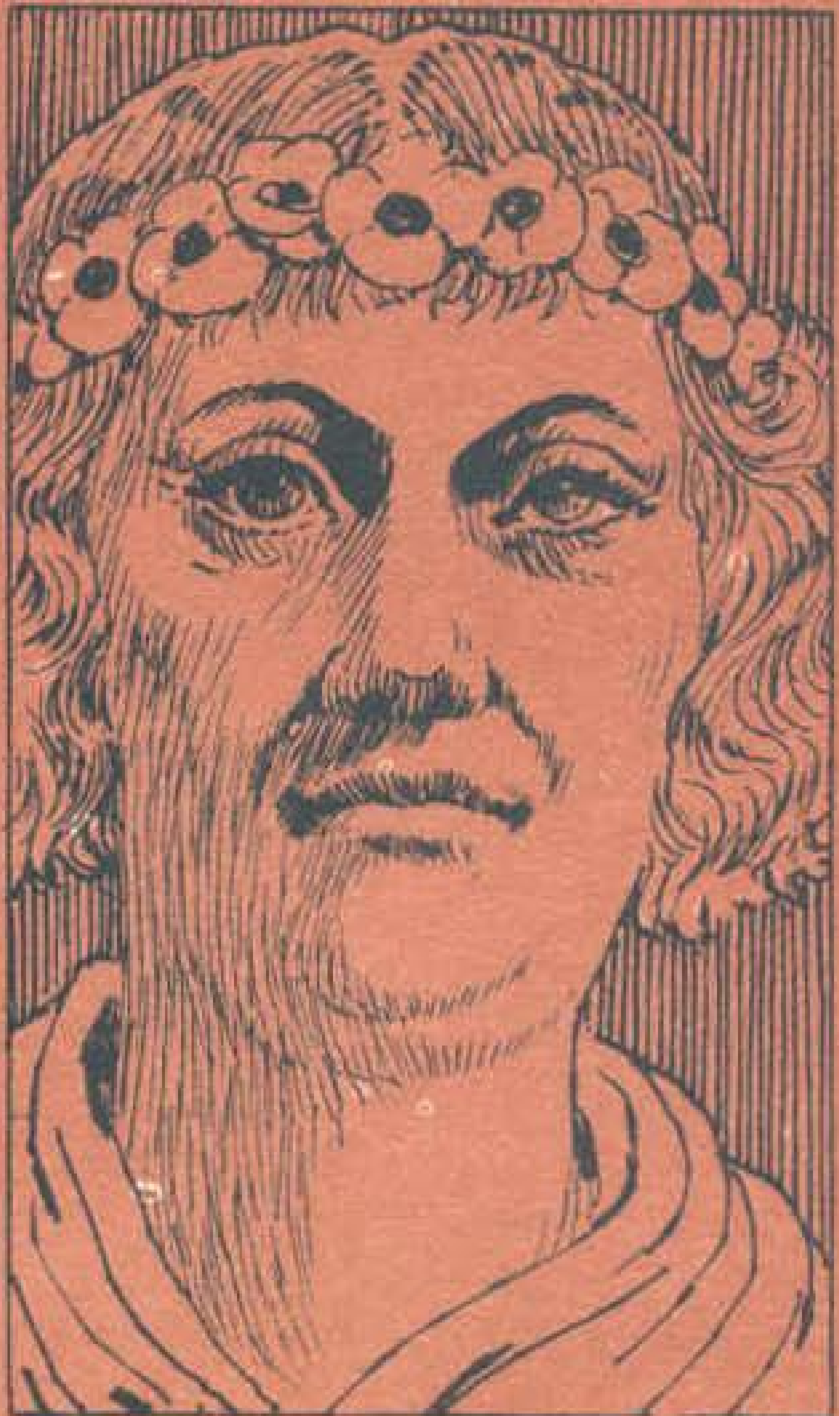
Jupiter decreed that Pluto must return Persephone to her mother if the maiden had eaten nothing since her stay in Hades. But Persephone had eaten just four pomegranate seeds, and because of this she agreed to stay in the Underworld as Pluto's queen for four months out of every year. In time she came to love and respect Pluto and they lived very happily together.

THE EARTH

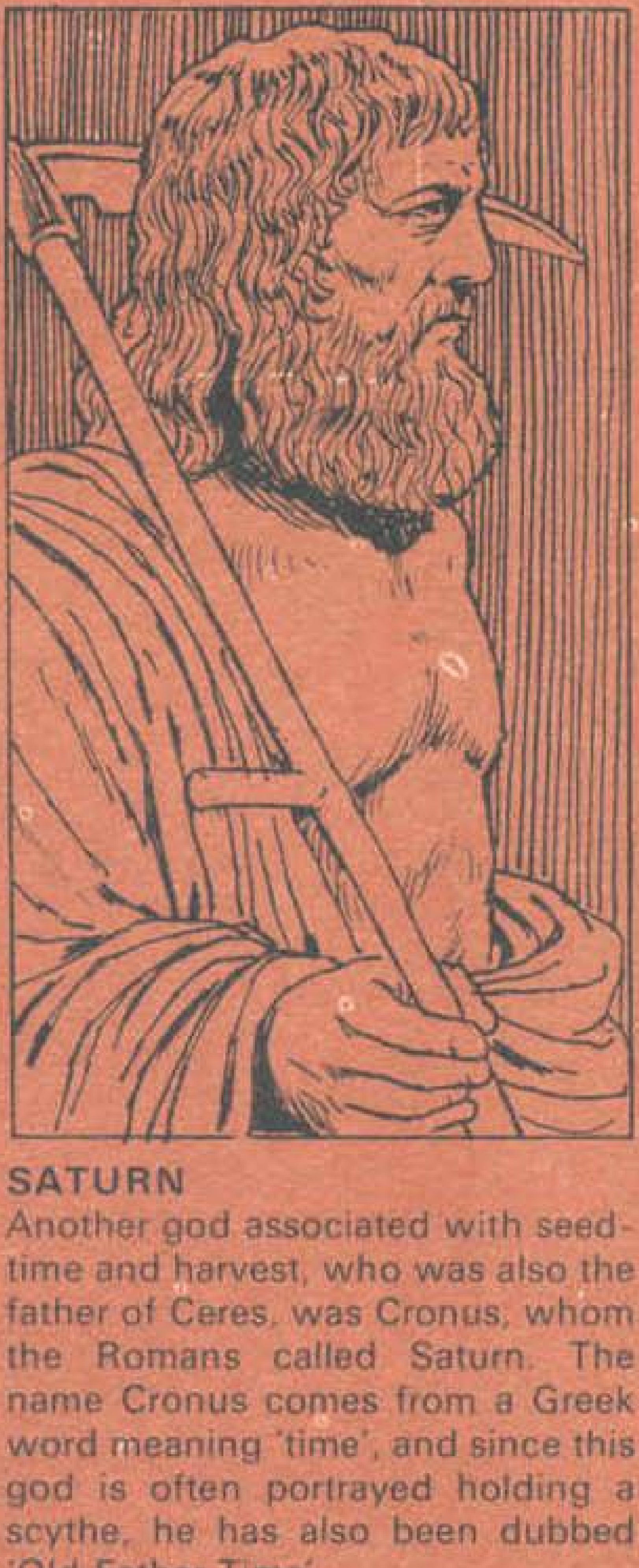
Ceres, the Earth Mother, who was the mother of Persephone, was also the goddess of the harvest and of agriculture. She was a welcome sight riding through the cornfields in her chariot drawn by dragons, and with a circlet of red poppies adorning her delicate brow. Because Ceres was happy, she wanted all her people to rejoice too, and she made sure that it was summertime all the year round.

But everything changed when she lost her daughter. While she searched the world for Persephone, the earth was allowed to grow barren and bare, no crops flourished, and there was no harvest. For the first time in man's memory winter came to the earth, and although Ceres rejoiced when Persephone returned home, she still mourned her for the four months which Persephone spent with Pluto, and each time that this happened winter returned to the earth.

On the first day that Persephone returned to live on earth with her mother, the flowers bloomed, and the first green shoots of corn appeared in the dark soil, and people rejoiced once more that the long winter was over and that spring had once more returned.



There are nine heavenly bodies which orbit the sun which the ancient Greeks called *wanderers* or *planets*, and which they named after the gods and goddesses of Mount Olympus.



SATURN

Another god associated with seedtime and harvest, who was also the father of Ceres, was Cronus, whom the Romans called Saturn. The name Cronus comes from a Greek word meaning 'time', and since this god is often portrayed holding a scythe, he has also been dubbed 'Old Father Time'.

The name Saturn comes from the Latin verb *serer*, meaning 'to sow'.

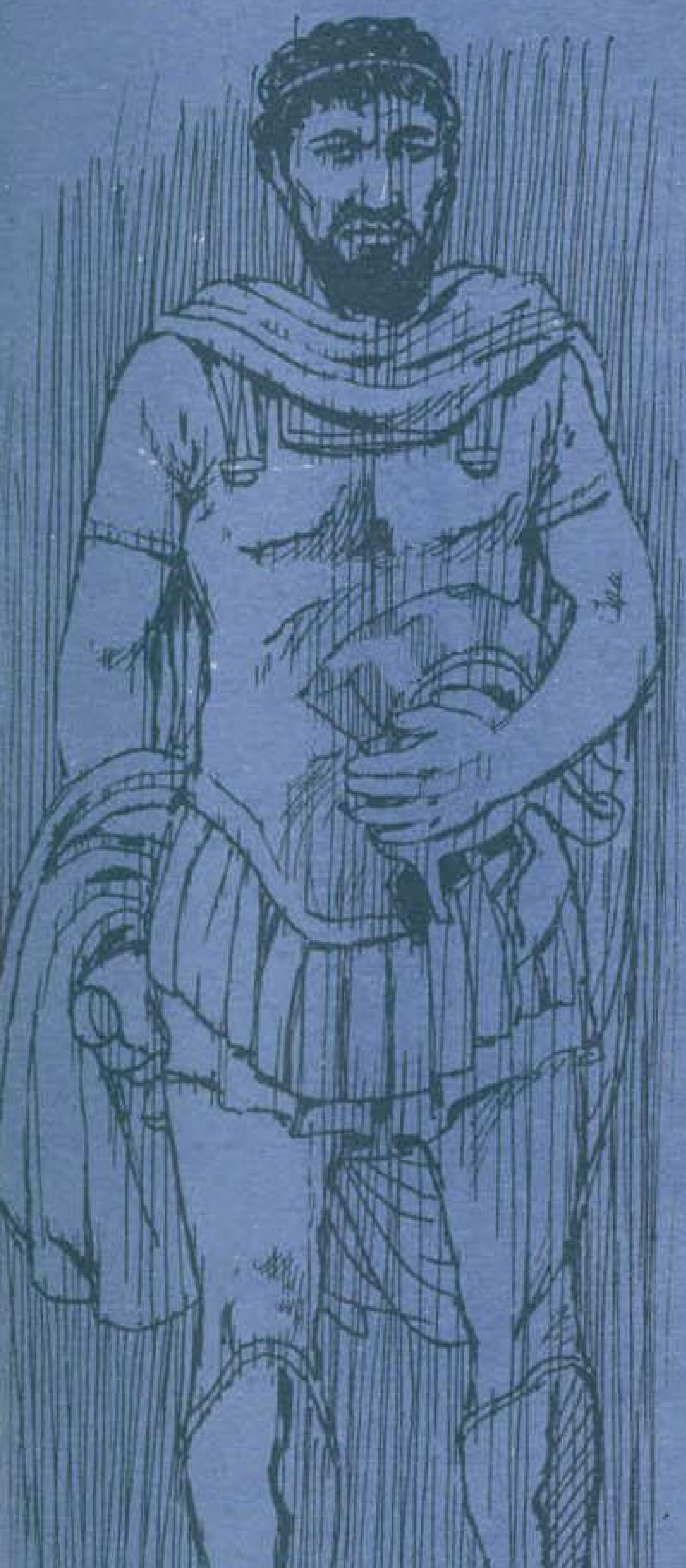
Saturn was the father of several other children besides Ceres, including Neptune, Pluto and Jupiter.

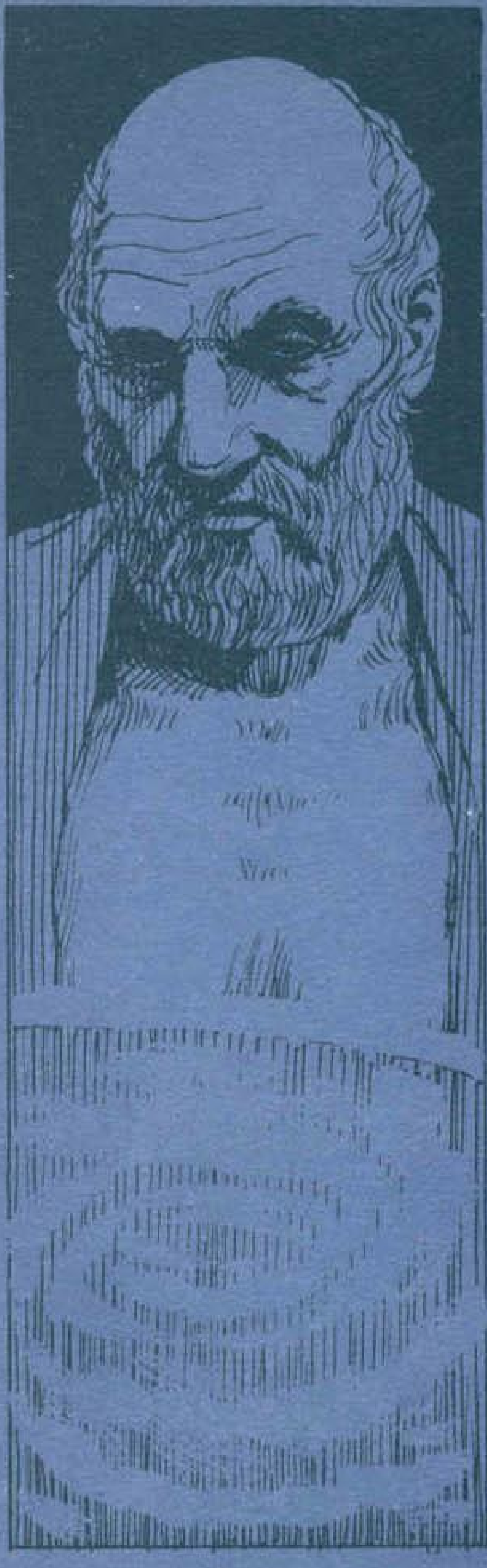
On December 17th, the Romans always held a festival in honour of Saturn. During this *Saturnalia*, as it was called, old grudges were forgotten, criminals went unpunished, and even the humblest slave was given a holiday. Several days of feasting and merrymaking followed various religious ceremonies which praised Saturn and gave him grateful thanks for once more providing them with a bountiful harvest.

MARS

Mars, the god of war, was the son of Jupiter and Juno and, according to Roman mythology, himself fathered the twins Romulus and Remus, the founders of the city of Rome.

Mars also gave his name to the third month of the year, and many temples were built in his honour, to which the mothers and wives of soldiers came to offer gifts to the god, and to ask Mars to spare their menfolk in battle and guard them from harm whenever danger threatened.





URANUS

Uranus was the oldest of all the gods, and was the first god of the skies, while his wife, Gaea, ruled over the earth. It was Uranus who gave heat, rain and light to the people on earth, and he and his wife were the parents of many gods and goddesses, the Cyclopes – who were a race of one-eyed giants – the Titans, and three strange storm spirits.

One day Gaea quarrelled with her husband and persuaded their son, Saturn, to kill him.

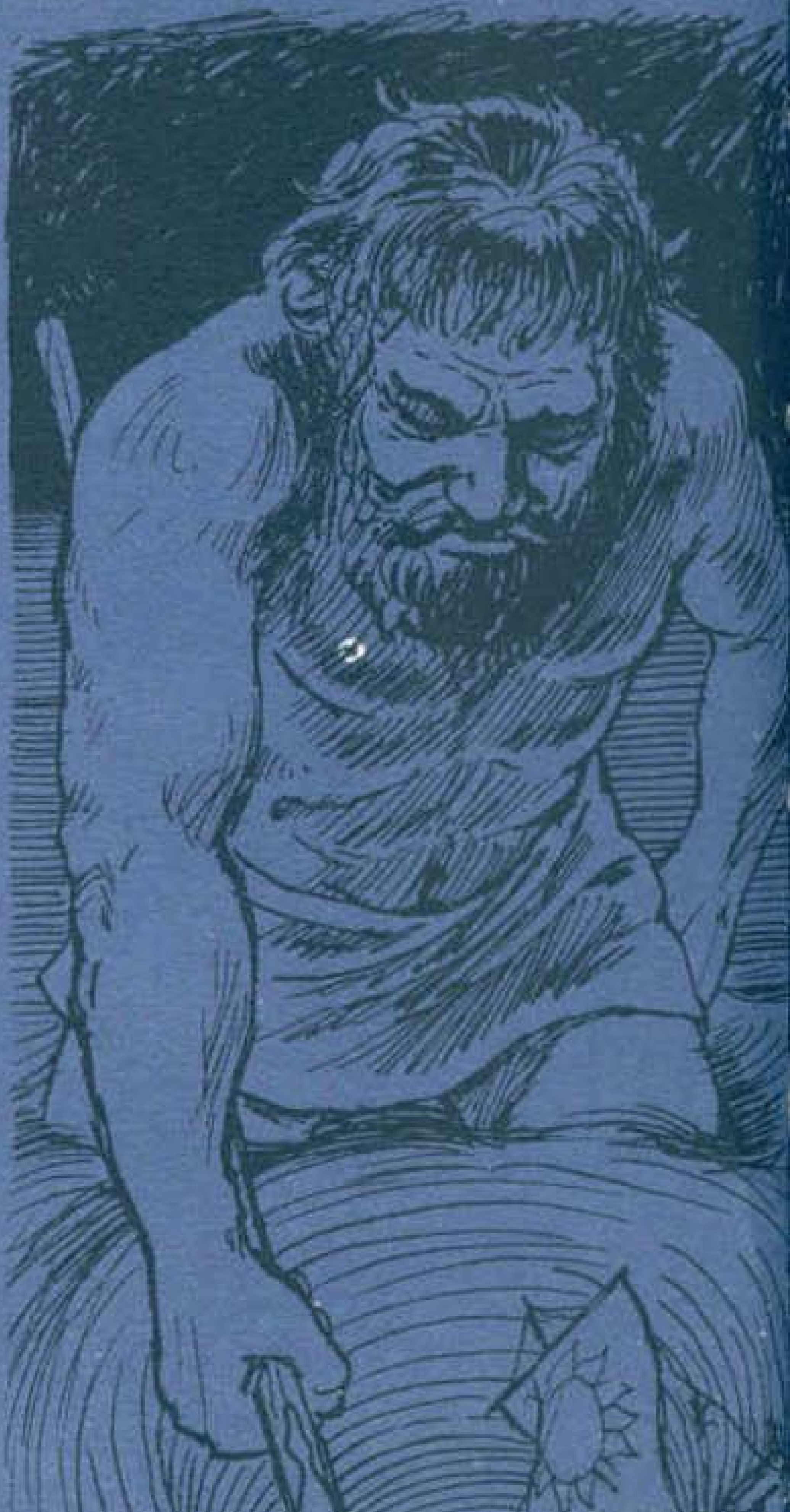
As he died, new children sprang from his blood including the Kindly Ones, the cruel Furies and the gentle ash-nymphs.

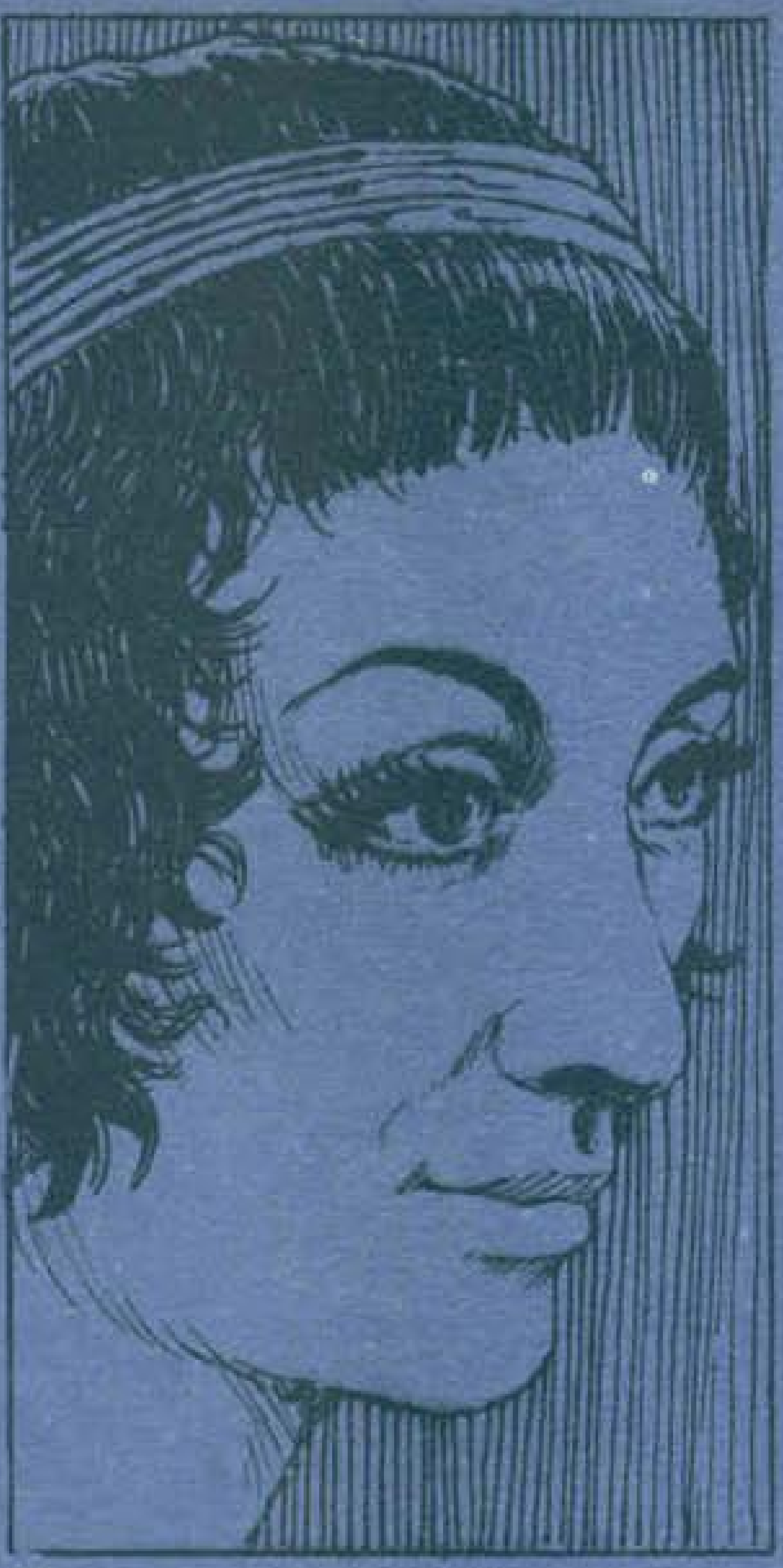
NEPTUNE

Given the kingdom under the sea as a reward for helping Jupiter overthrow the Titans, Neptune often amused himself by causing freak storms with his magic trident whenever ships carrying people whom he disliked were upon the waters.

When the King of Troy refused to pay Neptune for his work on building the city walls, the sea god avenged himself on the Trojans by joining the Greeks and helping them to plan the downfall of Troy.

Although Neptune failed to win the contest against Athene at Attica, when the winner had a city named after her, Neptune's creation of the horse was greatly applauded, and he became the favourite god of all who raced horses or sailed the seven seas.





VENUS

Venus, the goddess of beauty, was born from the foam of the sea, which in turn carried her to Mount Olympus where she won the hearts of all with her beauty and charm. About her waist she always wore a magic girdle which had powers to make all who wore it loved by everyone, and sometimes she lent it to people she liked.

It was to Venus that the shepherd boy Paris gave the golden apple of discord in return for her promise of giving him the fairest of all women as his wife.

This was, of course, Helen of Troy, and when Paris stole her away from Menelaus, it was the start of the long Trojan war.

Venus was the mother of Adonis, who was killed by a wild boar while out hunting, and whose death made Venus desolate until Persephone agreed to let Adonis live with his mother again for a brief time each year.

Her other son was Cupid, the god of love, and it was he who attended on Venus whenever she rode her chariot, driven by doves and sparrows, around the heavens. Venus was very possessive about those she loved and, when Cupid fell in love with Psyche and married her, Venus was very angry with the young couple for a very long time.

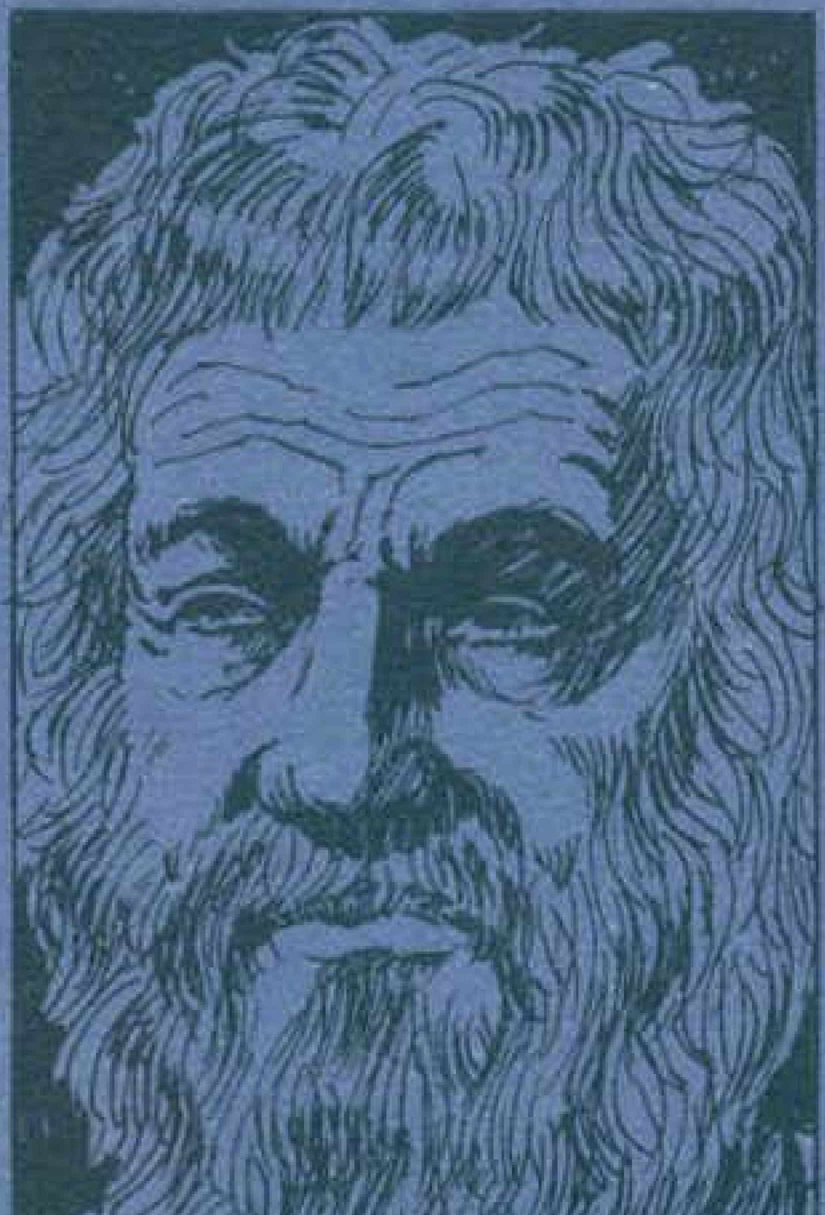
JUPITER

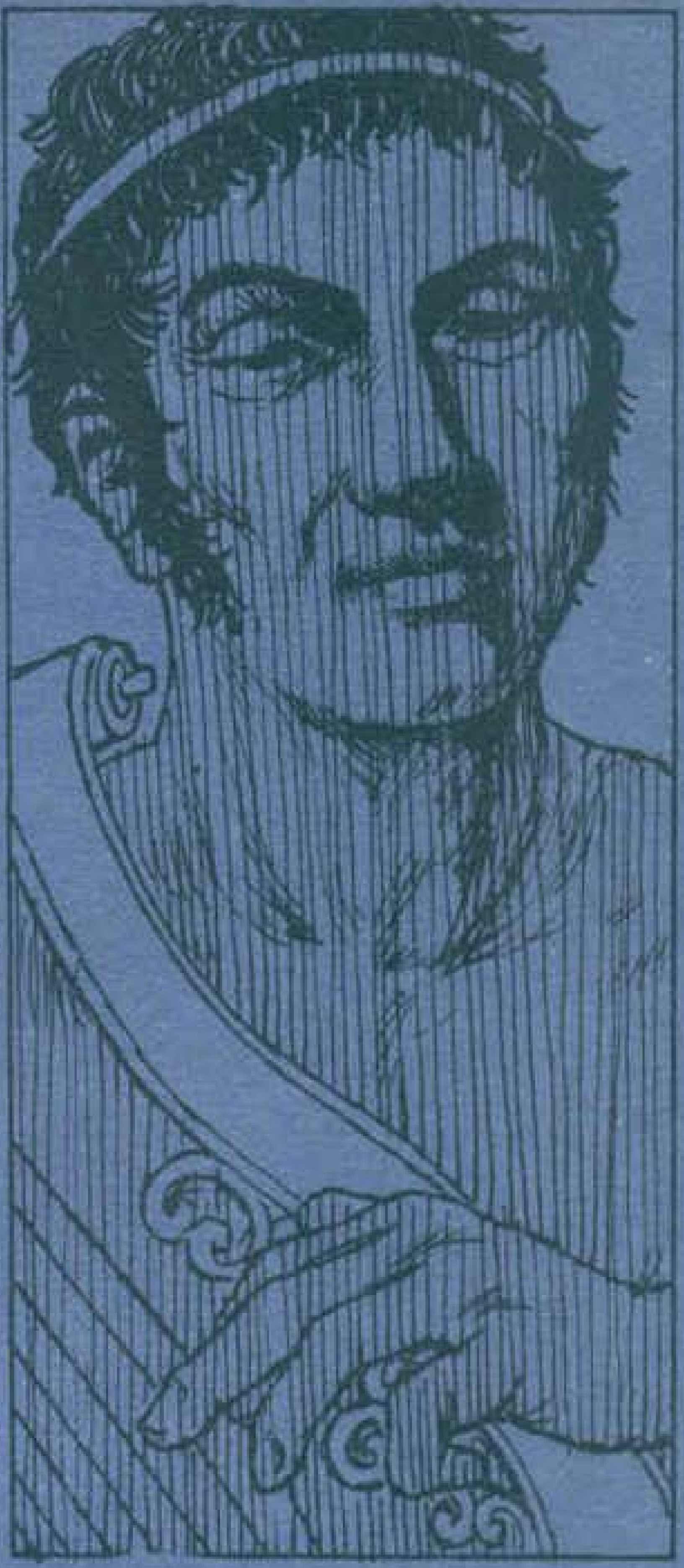
Jupiter, the king of all the gods, had three wives and many children. His wives were Metis, the Goddess of Wisdom, Themis the Goddess of Justice, and his third wife was the beautiful Juno, Queen of the Heavens. Among his many children were Mars, Perseus, Diana, Apollo, Hercules and Mercury.

It was with Mercury that Jupiter made the journey to Phrygia, seeking out people with kind hearts. The only people to show kindness to the two gods were an old couple named Philemon and Baucis, who shared their simple meal with them.

In return Jupiter changed the couple's humble cottage into a wonderful palace where Philemon and Baucis were able to dispense hospitality to all travellers and where they daily paid honour to Jupiter.

Jupiter also saw how devoted the old couple were to each other, and when the time came for them to leave their earthly life, in his great kindness, Jupiter changed Baucis and Philemon into two trees, a linden tree and an oak tree, and they flourished there happily together.





MERCURY

Mercury, or Hermes as the Greeks called him, was the messenger of the gods. He was often sent on errands by his father, Jupiter. Mercury's mother was Maia, the beautiful daughter of Atlas, one of the Titans, and Mercury himself was the father of Pan, who charmed everyone with his merry pipes.

Mercury was a great lover of music, and was given a magic wand or *caduceus* by Apollo because the sun god had been so pleased with the lyre which Mercury had made for him.

The *caduceus* had the power to change any ordinary object into pure gold, and with it Mercury could control the souls of the living and the dead. This special wand, with its twisted snakes, and wings similar to those which appeared on the heels of Mercury himself, has become the special emblem of those connected with medicine.

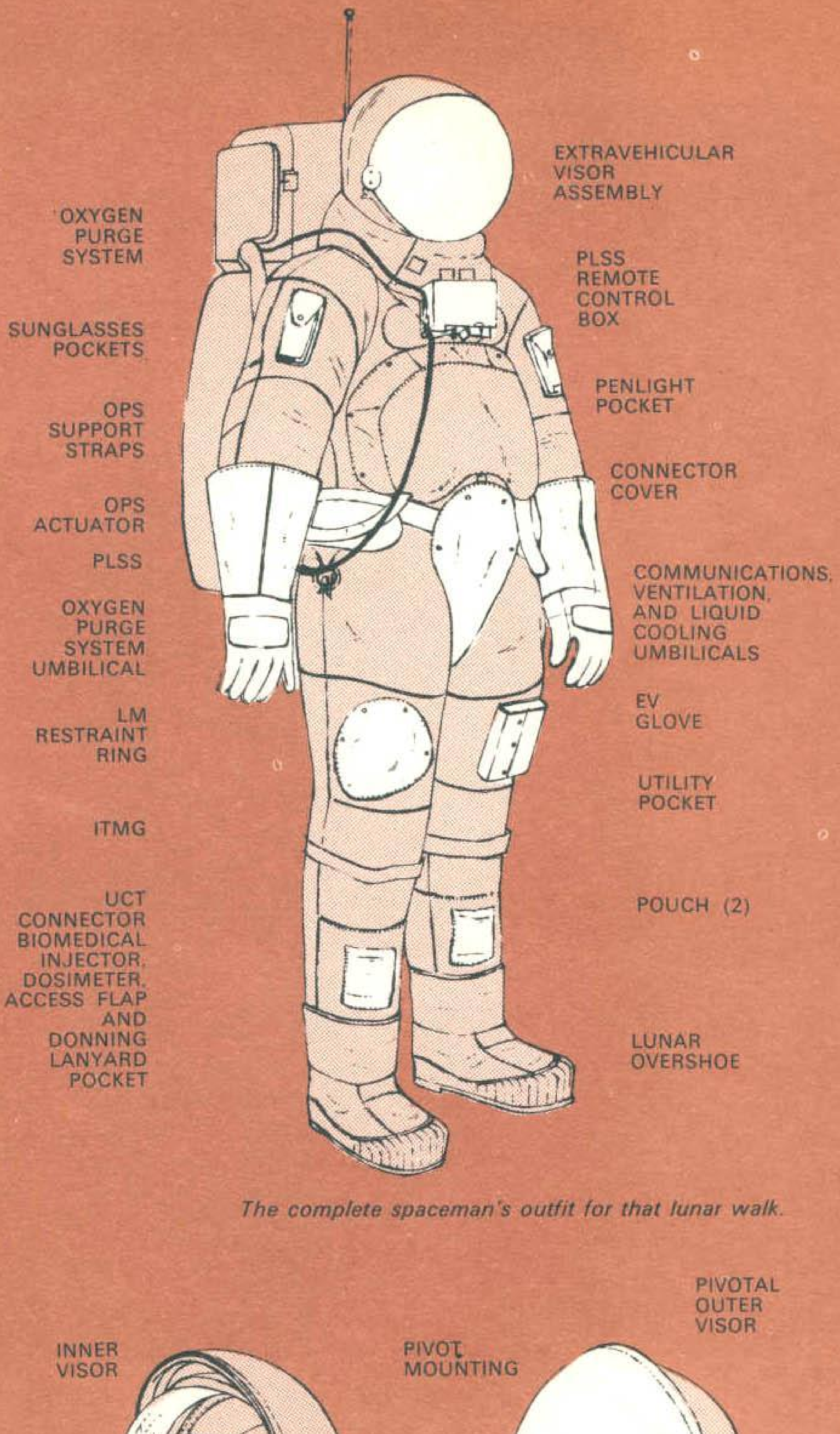
It was Mercury who restored Persephone to her mother, and with Jupiter made the journey to Phrygia.

THE SUIT OF THE FUTURE

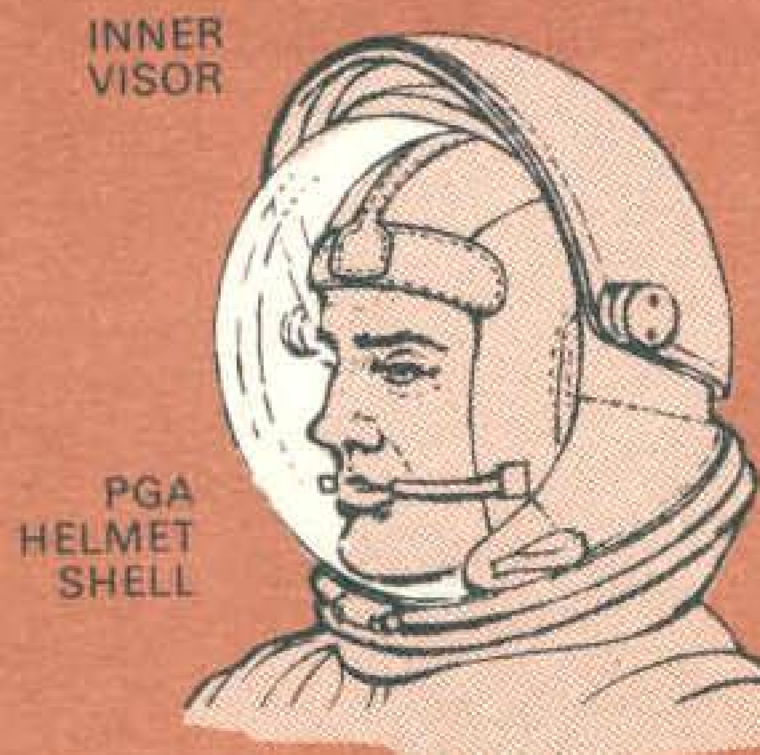
What is the well dressed spaceman wearing nowadays? It may not look like a Dior creation but the latest thing for a walk on the moon is certainly eye-catching . . . and very practical.

The complete spacesuit is made up of a liquid-cooled garment to keep the astronaut cool; a pressure garment assembly which enables him to move about in the vacuum of space; a micro-meteoroid garment to protect him from harmful radiation and small meteors, and finally a visor assembly which wards off space particles and solar heat. The outer visor has a gold-film reflective layer.

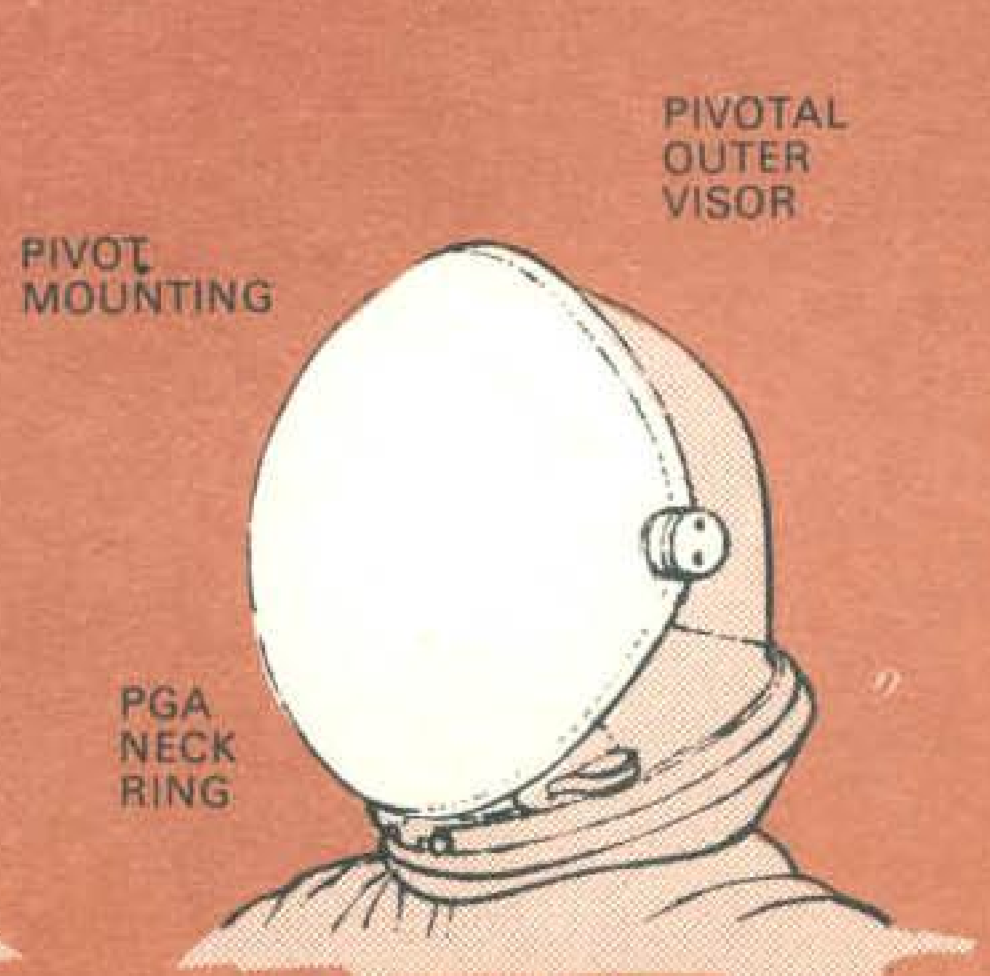
On top of everything goes the Portable Life Support System which performs many functions, among which are maintaining the pressure of oxygen in the suit, circulating liquid and cooling expired gas. It can operate for four hours before being replenished.


OXYGEN PURGE SYSTEM
SUNGLASSES POCKETS
OPS SUPPORT STRAPS
OPS ACTUATOR
PLSS
OXYGEN PURGE SYSTEM UMBILICAL
LM RESTRAINT RING
ITMG
UCT CONNECTOR BIOMEDICAL INJECTOR, DOSIMETER, ACCESS FLAP AND DONNING LANYARD POCKET
EXTRAVEHICULAR VISOR ASSEMBLY
PLSS REMOTE CONTROL BOX
PENLIGHT POCKET
CONNECTOR COVER
COMMUNICATIONS, VENTILATION, AND LIQUID COOLING UMBILICALS
EV GLOVE
UTILITY POCKET
POUCH (2)
LUNAR OVERSHOE

The complete spaceman's outfit for that lunar walk.

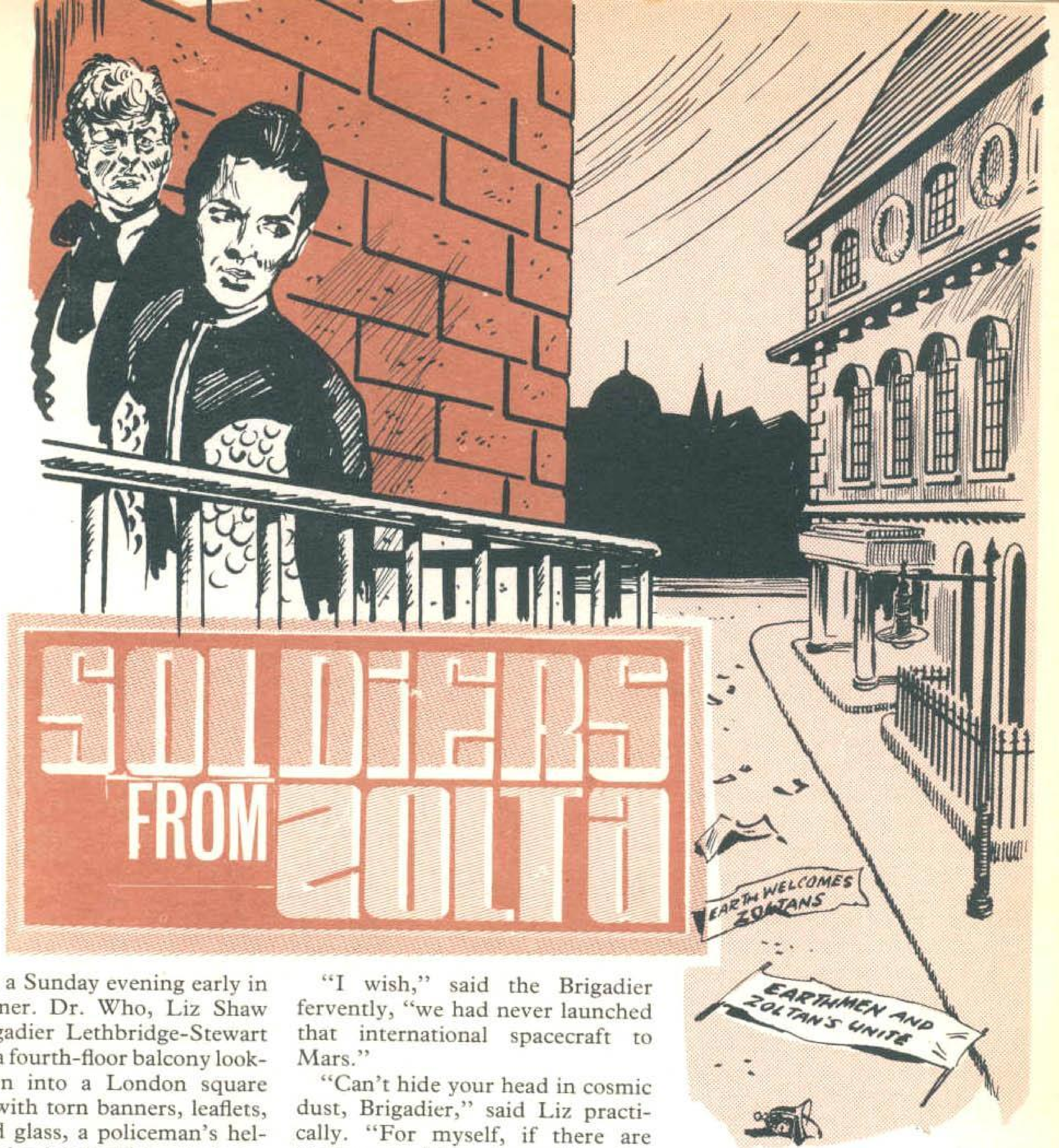

INNER VISOR
PGA HELMET SHELL

Open View


PIVOTAL OUTER VISOR
PIVOT MOUNTING
PGA NECK RING

Closed View

SOLDIERS FROM ZOLTA



It was a Sunday evening early in summer. Dr. Who, Liz Shaw and Brigadier Lethbridge-Stewart were on a fourth-floor balcony looking down into a London square littered with torn banners, leaflets, shattered glass, a policeman's helmet . . . the debris of the day's demonstrations. Empty potato crisp bags scraped along the gutters when the wind tried to inject a little oxygen into the stale air.

In that there had been orderly marchers, flanked by policemen, and disorderly mobs surging wildly to break through hastily-formed police cordons, it had not been unlike certain other Sundays. Only the reason was different as the banners proclaimed:

EARTH WELCOMES ZOLTANS! FRIENDSHIP TO OUR BROTHERS FROM SPACE! EARTHMEN AND ZOLTANS UNITE!

"I wish," said the Brigadier fervently, "we had never launched that international spacecraft to Mars."

"Can't hide your head in cosmic dust, Brigadier," said Liz practically. "For myself, if there are Zoltans on Mars, I would rather know about it."

"One research party!" exploded the Brigadier. "Two dozen Zoltans at the most! Yet from the way everybody out there was behaving today you would think Zoltans and Earthmen were about to become close neighbours. That our destinies were irrevocably entangled from now on."

"They could be if the Zoltans are carrying out tests on Mars with the idea of colonizing the planet."

"You think we would let them?"

"You think we could stop them?"

"Everybody wrangling," muttered the Brigadier. "Argus Possiter, UNO, UNIT, the politicians . . ."

"In that order of importance?" smiled Dr. Who, going inside to ease off his elastic-sided boots which, after a day spent in the streets, were pinching.

Nevertheless it *had* been a shock! The spacecraft had been intended to orbit Mars automatically while five international astronauts landed in a Martian Bug. The basic technique, though more advanced, and speed, since the breakthrough in nuclear power, much greater, was not unlike that used in the now routine Moon landings.

The orbiting spacecraft was to send back pictures to Earth; the astronauts were to collect samples and explore a small area of the Martian landscape. Repeated success in space ventures had led even the experts to be complacent about the link-up of bug to orbiting spacecraft. However, if anything did go wrong, the spacecraft *could* return on its own.

Something had gone wrong. Momentarily the disaster had stunned Earth, though there had long been murmurings about the law of averages . . . The bug, it seemed, had disintegrated on landing. There could be no survivors.

The pictures taken had been studied closely. Incredibly, it had been realised that there were other space visitors on Mars, bipeds in spacesuits and helmets unfamiliar to the eyes of Earthmen. Because it was now possible to launch a craft at any time to Mars, one was despatched instantly to take closer photographs.

Had these alien space explorers been responsible for the breaking up of the bug? That was the frightening question.

Relief washed over Earth, for the new pictures showed the strangers eager to be helpful. The unfamiliarly-garbed space visitors had held up the fragments of the bug, as if trying to assist identification, as if trying to show what had occurred—this some distance from their own base.

Finally, thus endearing themselves to the majority of Earthmen, they had produced one of the astronauts, the Britisher, Adrian Fairley, propped between two Zoltans. Fairley had waved and, by gestures, had demonstrated that he and the Zoltans were on good terms.

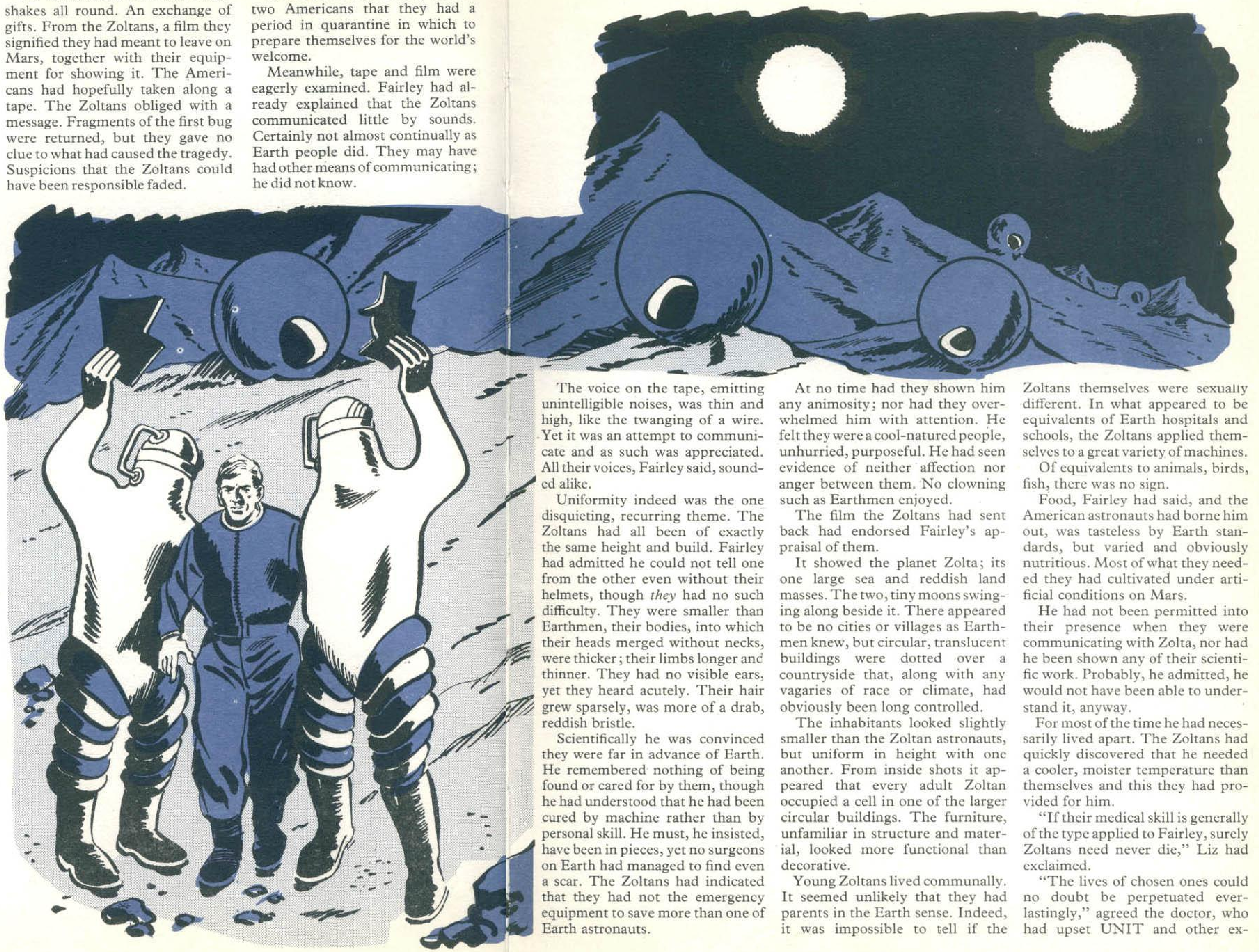
Curiosity, even enthusiasm, began to take the place of apprehension.

Another spacecraft was despatched eagerly, this time with a bug in which to collect Fairley. Two practised American astronauts were sent along to handle the bug.

All was success. Farewell handshakes all round. An exchange of gifts. From the Zoltans, a film they signified they had meant to leave on Mars, together with their equipment for showing it. The Americans had hopefully taken along a tape. The Zoltans obliged with a message. Fragments of the first bug were returned, but they gave no clue to what had caused the tragedy. Suspicions that the Zoltans could have been responsible faded.

It was as well for Fairley and the two Americans that they had a period in quarantine in which to prepare themselves for the world's welcome.

Meanwhile, tape and film were eagerly examined. Fairley had already explained that the Zoltans communicated little by sounds. Certainly not almost continually as Earth people did. They may have had other means of communicating; he did not know.



The voice on the tape, emitting unintelligible noises, was thin and high, like the twanging of a wire. Yet it was an attempt to communicate and as such was appreciated. All their voices, Fairley said, sounded alike.

Uniformity indeed was the one disquieting, recurring theme. The Zoltans had all been of exactly the same height and build. Fairley had admitted he could not tell one from the other even without their helmets, though *they* had no such difficulty. They were smaller than Earthmen, their bodies, into which their heads merged without necks, were thicker; their limbs longer and thinner. They had no visible ears, yet they heard acutely. Their hair grew sparsely, was more of a drab, reddish bristle.

Scientifically he was convinced they were far in advance of Earth. He remembered nothing of being found or cared for by them, though he had understood that he had been cured by machine rather than by personal skill. He must, he insisted, have been in pieces, yet no surgeons on Earth had managed to find even a scar. The Zoltans had indicated that they had not the emergency equipment to save more than one of Earth astronauts.

At no time had they shown him any animosity; nor had they overwhelmed him with attention. He felt they were a cool-natured people, unhurried, purposeful. He had seen evidence of neither affection nor anger between them. No clowning such as Earthmen enjoyed.

The film the Zoltans had sent back had endorsed Fairley's appraisal of them.

It showed the planet Zolta; its one large sea and reddish land masses. The two, tiny moons swinging along beside it. There appeared to be no cities or villages as Earthmen knew, but circular, translucent buildings were dotted over a countryside that, along with any vagaries of race or climate, had obviously been long controlled.

The inhabitants looked slightly smaller than the Zoltan astronauts, but uniform in height with one another. From inside shots it appeared that every adult Zoltan occupied a cell in one of the larger circular buildings. The furniture, unfamiliar in structure and material, looked more functional than decorative.

Young Zoltans lived communally. It seemed unlikely that they had parents in the Earth sense. Indeed, it was impossible to tell if the Zoltans themselves were sexually different. In what appeared to be equivalents of Earth hospitals and schools, the Zoltans applied themselves to a great variety of machines.

Of equivalents to animals, birds, fish, there was no sign.

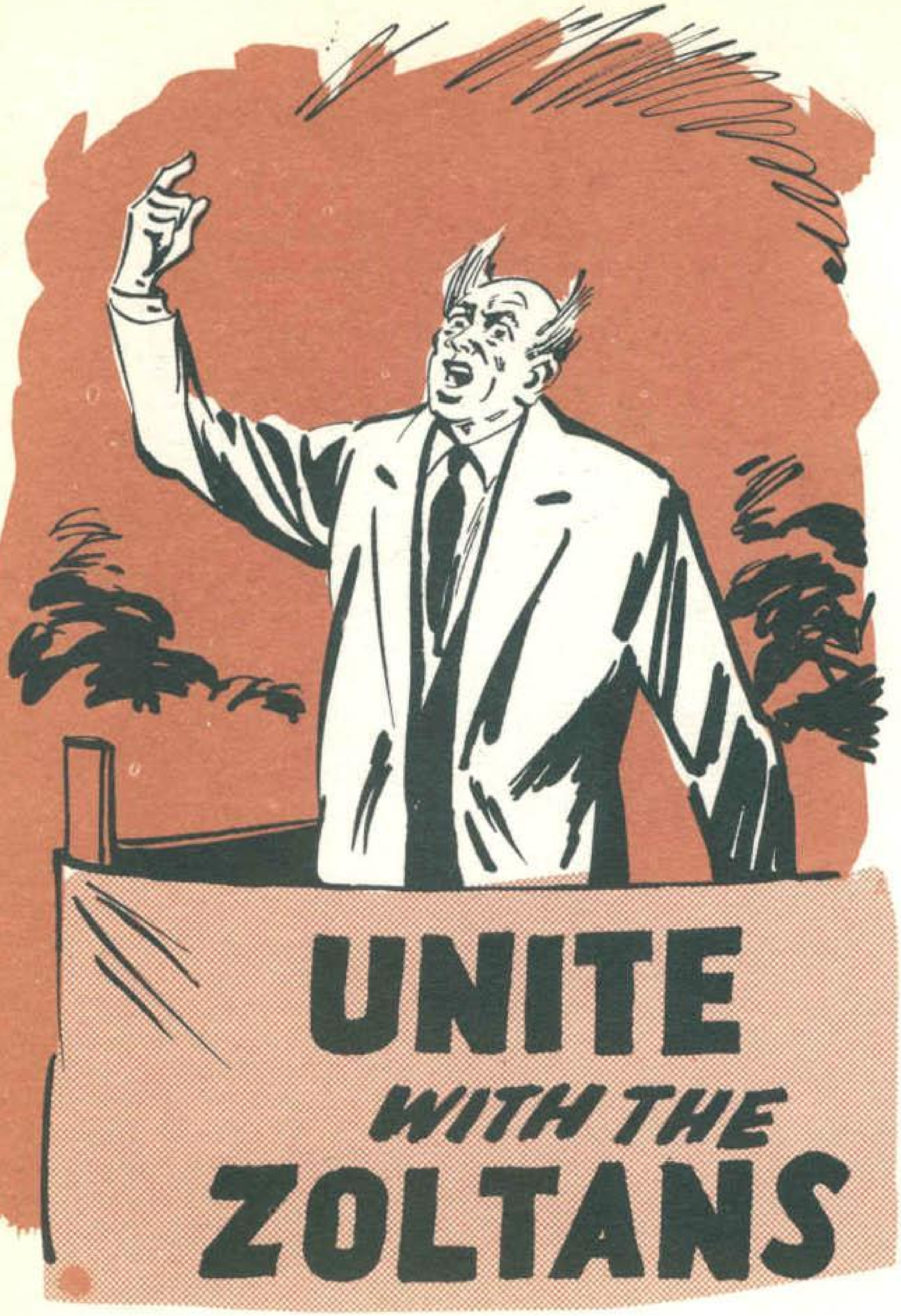
Food, Fairley had said, and the American astronauts had borne him out, was tasteless by Earth standards, but varied and obviously nutritious. Most of what they needed they had cultivated under artificial conditions on Mars.

He had not been permitted into their presence when they were communicating with Zolta, nor had he been shown any of their scientific work. Probably, he admitted, he would not have been able to understand it, anyway.

For most of the time he had necessarily lived apart. The Zoltans had quickly discovered that he needed a cooler, moister temperature than themselves and this they had provided for him.

"If their medical skill is generally of the type applied to Fairley, surely Zoltans need never die," Liz had exclaimed.

"The lives of chosen ones could no doubt be perpetuated everlastingly," agreed the doctor, who had upset UNIT and other ex-



perts by declaring, in a moment of unfortunate humour, that life on Zolta appeared to be about as exciting as existence in a termitary or ant's nest.

"Further," he had added, "we have seen the young, the workers, the astronauts, but not the soldiers."

"Who, if your simile were correct, would be much bigger, fiercer . . ." said the Brigadier.

Liz had lost her temper. "If Zoltans have no passions, they would not need soldiers. Oh, why must you men always believe that where there is life there must be killing and violence?"

"You sound like Argus Possiter," the doctor had said mildly.

"You are sure, doctor," the Brigadier had persisted, "that you have never encountered these Zoltans in your travels? Nothing on the film is familiar to you?"

Dr. Who had shook his head. He wished it was. It would have made the always difficult task of giving advice so much simpler.

Meanwhile the mounting tide of enthusiasts on Earth were demanding that a grand overture of friendship be made to the Zoltan research party before they left Mars. An invitation should be given them to visit Earth.

The more cautious and long-sighted drew back in alarm from such a suggestion. So much was involved. So little was known about the Zoltans. There was the danger of disease . . .

Promptly, Argus Possiter in London and his equivalents in other countries, thriving as always on opposition, began organising demonstrations in favour of the invitation. In the wake of their passionate pro-Zoltanism, men like the Brigadier feared there might come insanity. Already the minds of Earthmen were a little unhinged by the past month's events.

"That Possiter!" growled the Brigadier. "He's ready to fall down and worship the Zoltans."

"It's only that his desire for world peace has suddenly extended itself to space," said Liz.

"Peace!" The Brigadier gestured at the litter below, the wreckage in the streets beyond. "How can a ranting trouble-maker with an uncontrollable temper preach peace?"

"Oh, the preaching is easy enough," said Dr. Who drily.

"Did you see the coward when he thought he was going to get hit? Yet thousands of intelligent, genuinely idealistic youngsters follow him. Tell me one *good* thing he has ever achieved."

"Let's go," said Liz gently. "The crowds have dispersed by now."

The Brigadier's car had been wrecked along with many others that afternoon. Dr. Who's car, which looked a wreck anyhow, had escaped. He offered them a lift, which Liz philosophically and the Brigadier apprehensively accepted.

Liz's optimism that the crowds had dispersed was proved wrong. Argus Possiter was still haranguing a sizeable crowd from an improvised platform, at Hyde Park, decked with the now familiar banners.

"Look who's standing beside him," whispered Liz.

Dr. Who's eyes narrowed uneasily. Fairley!

"They'll throw the old Earth dust in your eyes!" Possiter was yelling. "You can be sure the Military and Germ Warfare experts are already deciding among

The sun, like the moon, produces tides on the earth's surface. The sun, however, though enormous compared to the moon, is so far off that the tidal effect it has is less than half of that of the moon.

themselves what can be dropped on the interlopers. Once again we'll be the fodder of their fears, their narrow-mindedness, their inability to trust and love . . ."

There was one cry of dissent; an instant scuffle; and a rising howl of approval. Somebody began banging a tambourine.

Possiter held up his hand for silence; opened his mouth . . . His eyes were wild: his hair stuck out around his prematurely balding head; sweat was pouring down his face. "Brothers, we will unite with the Zoltans! Those who will not stand with us shall be overthrown!"

Another howl of applause died away. Possiter again opened his mouth to speak. His arms, flung before him, suddenly stiffened. His eyes dilated to the point of madness.

"Save me!" he screamed. "Save me!" His voice was hoarse with terror. "Don't let it get me. Kill it!"

Everybody stared in amazement.

Dr. Who jumped hurriedly from his car.

"What's the matter with the man?" exclaimed the Brigadier.

Possiter's last scream died in his throat. His rigid body collapsed over the rail. The astronaut Fairley and others on the platform gathered in wonderment about him.

The Brigadier, following Dr. Who through the crowd, which was threatening to become a stampeding mass, looked around for a possible sniper. But Possiter could not have seen a bullet coming!

Dr. Who reached the body a fraction of a second before the first policeman.

No bullet, no wound of any kind . . . Possiter had died of stark terror.

"But there was nothing there," said the Brigadier.

"*He* saw something," said Dr. Who.

"Well, the Zoltans, though they cannot know it, have lost one of their leading champions," said Liz.

The fact was not without significance for the press and radio and television networks alike. There began to be murmurs of a secret method of death, assassination by those in power *not* desirous of friendship with the Zoltans. An embarrassment had been removed, it was felt.

Just as an unpleasant wave of suspicion was threatening to topple over Westminster, Arthur P. Quantell, a responsible American politician, who had urged caution and who was much respected internationally, fell overboard from his yacht. A nearby boat had sighted the lone yachtsman backing towards the helm, arms outstretched as if to ward off something. Suddenly he had become rigid; then toppled backwards.

Drowning, UNIT was informed, was not the cause of death. The politician's heart had failed. His face was convulsed with terror.

"It doesn't make sense," protested the Brigadier. "There was no more anything terrifying on that yacht than there was on Possiter's platform in Hyde Park."

"Because *we* can't see anything terrifying that doesn't mean it doesn't exist," retorted Dr. Who. "Where had Quantell been before he went sailing?"

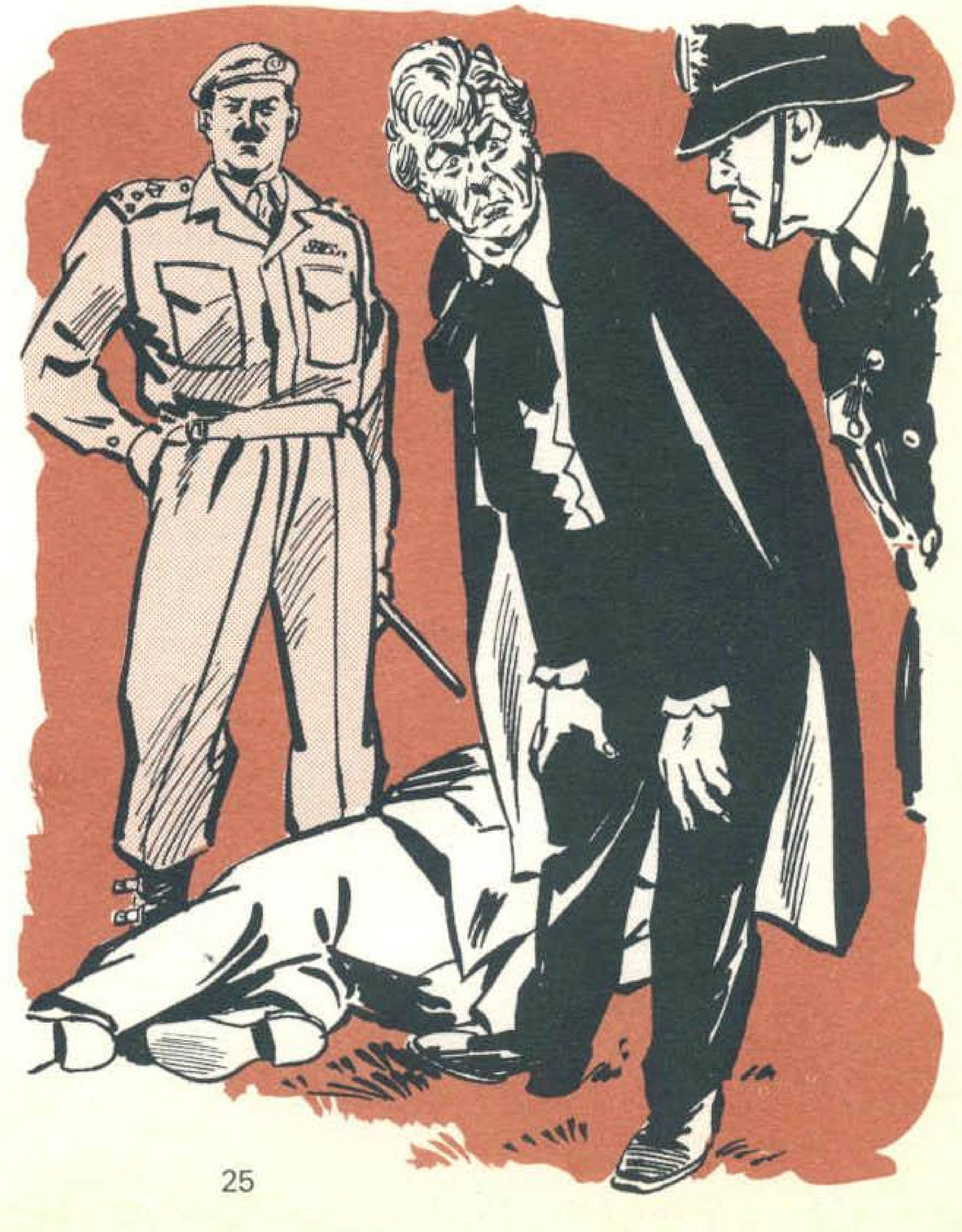
"Um? Oh, to the UNO dinner for the returned astronauts."

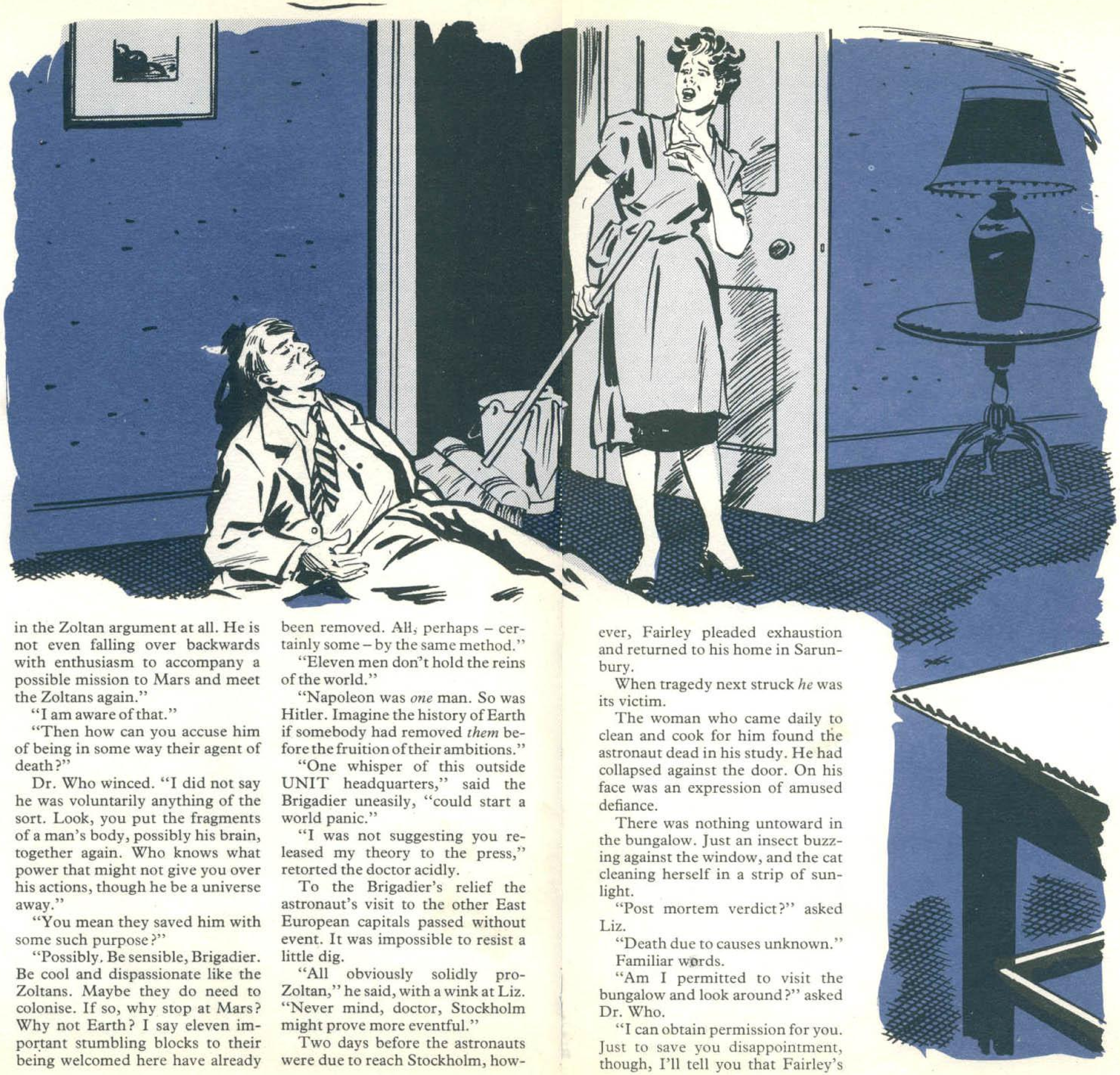
"Interesting!"

"All three have been invited to visit the leading capitals," said Liz. "Not an unusual procedure."

Against the background of yet another tragedy the argument for and against inviting the Zoltans to visit Earth continued to be waged at international level.

A Russian jet bringing nine people to London crashed. These





people had been apparently pro, but in reality anti the Zoltans. The airport, having just issued landing directions, received a gurgle of horror instead of confirmation from the pilot. After that, black-out. No survivors.

"Whether or not *he* looked terrified, we'll never know," said the Brigadier soberly.

"Ten anti-Zoltans, one pro-Zoltan gone," observed the doctor.

"If they had all been anti-Zoltans we might start wondering," smiled the Brigadier.

"I think you *should* be wondering," said the doctor.

"Don't be ridiculous!" The Brigadier shot a second look at the doctor's grave face. "Be reasonable, doctor, even if the Zoltans had the power, they wouldn't wipe out one of their own keenest supporters."

"Such a suspicion is beneath you, doctor," bit Liz.

"There are times when a supporter can do more harm than an enemy," said the doctor. "For every hundred people a man like Possiter carries with him, he repels thousands. Looked at in that way . . ."

"But how could the Zoltans know who are their supporters and who their opponents on Earth?"

"Fairley knows."

"Of all the preposterous . . ." Liz picked up her gloves and slammed out.

"Where are the three astronauts now?" enquired the doctor.

"They were in Moscow yesterday. They fly on to . . ." The Brigadier stared at him in horror. "You're not really suggesting that Fairley and the two Americans have anything to do with this?"

"The Americans, no; they were miles away when Argus Possiter died of terror, but Fairley was beside him. Fairley was at the UNO dinner, and Fairley, I see from the photograph on the front page of the newspaper you have just put on your desk, saw the Russians off from Moscow Airport last night."

"Doctor, I have much reason to respect you greatly. But this is nonsense! Fairley is a quiet, courageous man. Apart from that one, I admit, out-of-character appearance beside Possiter, he had never joined in the Zoltan argument at all. He is not even falling over backwards with enthusiasm to accompany a possible mission to Mars and meet the Zoltans again."

"I am aware of that."

"Then how can you accuse him of being in some way their agent of death?"

Dr. Who winced. "I did not say he was voluntarily anything of the sort. Look, you put the fragments of a man's body, possibly his brain, together again. Who knows what power that might not give you over his actions, though he be a universe away."

"You mean they saved him with some such purpose?"

"Possibly. Be sensible, Brigadier. Be cool and dispassionate like the Zoltans. Maybe they do need to colonise. If so, why stop at Mars? Why not Earth? I say eleven important stumbling blocks to their being welcomed here have already been removed. All, perhaps – certainly some – by the same method."

"Eleven men don't hold the reins of the world."

"Napoleon was *one* man. So was Hitler. Imagine the history of Earth if somebody had removed *them* before the fruition of their ambitions."

"One whisper of this outside UNIT headquarters," said the Brigadier uneasily, "could start a world panic."

"I was not suggesting you released my theory to the press," retorted the doctor acidly.

To the Brigadier's relief the astronaut's visit to the other East European capitals passed without event. It was impossible to resist a little dig.

"All obviously solidly pro-Zoltan," he said, with a wink at Liz. "Never mind, doctor, Stockholm might prove more eventful."

Two days before the astronauts were due to reach Stockholm, however, Fairley pleaded exhaustion and returned to his home in Sarunbury.

When tragedy next struck *he* was its victim.

The woman who came daily to clean and cook for him found the astronaut dead in his study. He had collapsed against the door. On his face was an expression of amused defiance.

There was nothing untoward in the bungalow. Just an insect buzzing against the window, and the cat cleaning herself in a strip of sunlight.

"Post mortem verdict?" asked Liz.

"Death due to causes unknown." Familiar words.

"Am I permitted to visit the bungalow and look around?" asked Dr. Who.

"I can obtain permission for you. Just to save you disappointment, though, I'll tell you that Fairley's bungalow was clinically tidy. Nothing nocuous or unusual there."

When Dr. Who, hardly wearing an expression of gratitude, had departed, the Brigadier said, a trifle uneasily, to Liz: "I think we ought to follow him."

"You don't believe this theory of his? That Fairley is – was – some arch-agent of the Zoltans?"

The Brigadier side-stepped her question. "Be awkward for us all if anything happened to *him*. Imagine if the press discovered *he* wasn't of this Earth."

Fairley's bungalow, as Dr. Who discovered when his car pulled up with instant precision before the unfenced front lawn, looked disappointingly neat and featureless.

The policeman, who had been left on guard, obligingly pointed out Fairley's study and disappeared round the back, leaving the doctor free to explore. In the study itself were mementos of Fairley's training days, but nothing relating to the Zoltans.

On the wall was a map of the world with certain areas ringed in blue. To this the doctor paid more attention than the police had done.

Dr. Who re-entered the lounge, where the cat was curled on a cushion. Adjoining the window was a conservatory, cheerfully ablaze with geraniums and other potted plants. Dr. Who put out a hand to stroke the sleeping cat.

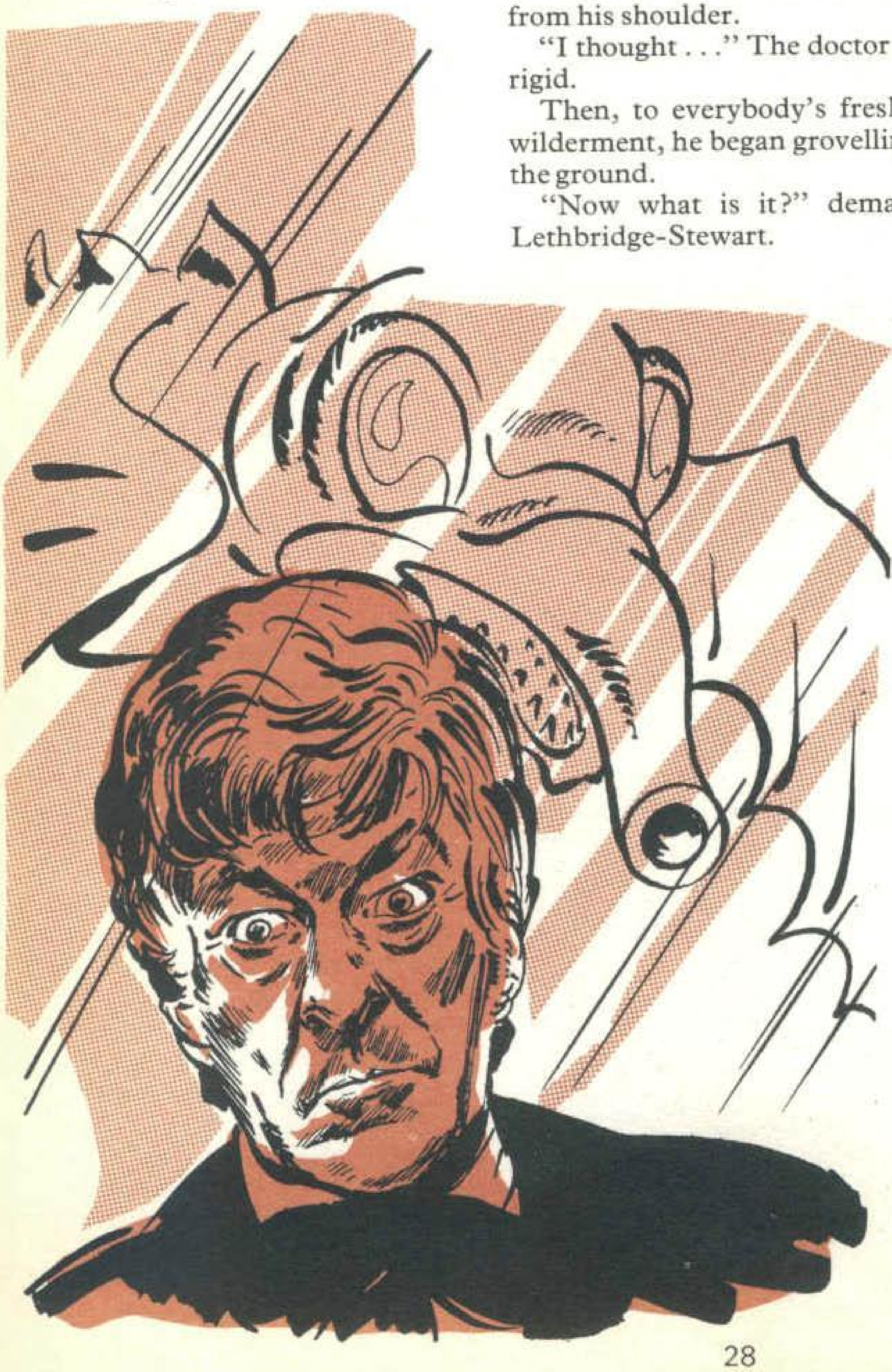
Here, in this apparently uninteresting bungalow, had lived a man who, for all his modesty, had been renowned throughout the world for his courage; who had been literally reclaimed from the dead by the Zoltans on Mars. Here, smiling defiantly, he had died. Smiling at what? At whom?

Depressed by the fruitlessness of his visit, Dr. Who rose to go. The mirror on the wall reflected the facial features which he was still finding pleasingly novel. Suddenly his mouth dried; his eyes dilated with incredulity.

Through the mirror he saw a hovering, monstrous, winged creature as big as himself. Two startlingly beautiful eyes of glittering turquoise shone in a head of malevolent ugliness. A sucking tube should have made the scythe-like jaws unnecessary; obviously it did not. Giant, jointed legs dangled limply.

The doctor jerked his head round to convince himself of the creature's reality and, in horror, he realised it was not beating at the window as he had imagined, but was in the room with him. Its wings seemed to fill the room. Gasping with suffocation, the doctor fled for the door.

In his panic he had forgotten the foot scraper. His head hit concrete. As the dull wings beat over him, the doctor felt his skin rising. He crawled forward and somehow got to his feet again.



"Doctor! Doctor!"

The voice, the sudden awareness that Liz Shaw and the Brigadier were regarding him in astonishment from the pavement, brought him sharply to his senses. Like other victims obviously only *he* could see his fearsome pursuer.

Liz came running across the lawn to him.

The doctor, irrationally scared for her, looked behind him. The creature had vanished. Ashamedly the doctor realised he was trembling.

"What was the matter?" demanded Liz concernedly. "Why did you rush from the bungalow like that?" She flicked something from his shoulder.

"I thought . . ." The doctor went rigid.

Then, to everybody's fresh bewilderment, he began grovelling on the ground.

"Now what is it?" demanded Lethbridge-Stewart.

"Aah!" In triumph the doctor's exploring fingers extracted a tiny, damaged, winged insect from among the shaven grass blades.

Liz laughed. "You weren't afraid of *that*, were you?"

"If its sting, which I didn't even feel, had paralysed *me*, as it paralysed other victims, I think I might have had a worse fright," admitted the doctor. "Perhaps even fatal.

"Of course," he added thankfully, "I haven't human blood or a human heart, so I don't react quite the same."

"Are you saying *that* is the Zoltans' weapon?" exclaimed the Brigadier.

"Their soldier," corrected Dr. Who. "Big and fearsome to its victims. Its sting induces illusion as well as paralysis. Ah, I don't recommend you to touch it, though I suspect each insect has only one sting and, like a bee, dies when it has lost it."

Liz said a little impatiently: "You believe Fairley bred these, deliberately planted them . . ."

"And last night destroyed them?"

"That we can only surmise," said the doctor. "Whether or not he died defying the power the Zoltans may have had over him, we shall never know. But, accidentally or intentionally, one insect remained, and of all the people who visited the bungalow today, it stung *me*."

"I suppose he could have brought back minute eggs," said the Brigadier. "You realise, though, doctor, that if our entomologists recognise this insect as being of Earth origin your theory falls flat."

None of the entomologists consulted did recognise the insect, however.

Meanwhile a fourth rocket despatched to Mars returned with news that brought both disappointment and relief to the inhabitants of Earth. The Zoltans had gone from Mars. No visible sign of their visit remained.

"Think we have heard the last of them, doctor?" asked the Brigadier.

"I doubt it," said Dr. Who. Uneasily he was remembering the blue-circled areas on Fairley's map. Just what had they signified?

GUESS WHO

WHO once travelled through time and space visiting many strange planets and meeting unusual people? Why, Dr Who, of course! But do you know:

1. WHO was the astronomer who first saw spots on the sun's surface?
2. WHO wrote *The First Men in the Moon?*
3. WHO made the first hot-air balloon in the early 18th century?
4. WHO called their spaceship the *Molly Brown?*
5. WHO gave her name to the first asteriod seen by the Sicilian astronomer Piazzi in 1801?
6. WHO first used a parachute?
7. WHO produced a smokeless non-luminous flame often used in scientific laboratories?
8. WHO was the first American to walk in space?
9. WHO was known as the *Father of Modern Astronomy* because of his beliefs concerning the universe?
10. WHO was the first woman in space?
11. WHO was the famous American astrologer who raised the money to build an observatory, named after him, in Flagstaff, Arizona, to observe the planets, especially Mars?
12. WHO was the first French space pioneer?

ANSWERS

1. GALILEO
2. H. G. WELLS
3. A PORTUGUESE NAMED GUSMAO
4. GUS GRISSOM AND JOHN YOUNG
5. CERES, GODDESS OF AGRICULTURE
6. P. BLANCHARD
7. ROBERT W. BUNSEN
8. ED WHITE
9. NICHOLAS COPERNICUS
10. VALENTINA TERESHKOVA
11. PERCIVAL LOWELL
12. ROBERT ESNAULT-PELTRIE

TWO MOONSTRUCK MEN

If Konstantin Tsiolkowski had been alive when Yuri Gagarin became the first man in space he might have given a quiet smile of satisfaction, seeing at last, the realisation of all his dreams.

Tsiolkowski, who died in 1935 at the age of seventy-eight, was a man with ideas far ahead of his time.

A young school teacher, who suffered from deafness as a result of a boyhood attack of scarlet fever, he was quick to see the many problems which man would have to overcome before a successful space flight could be achieved.

He foretold the invention of liquid fuels and multi-staged rockets, and stated firmly that men would have to wear ether suits before setting off into space. One of his ideas was to take a lot of green plants up in the spacecraft as an additional source of oxygen, and also to get rid of the poisonous carbon dioxide fumes in the spaceship.

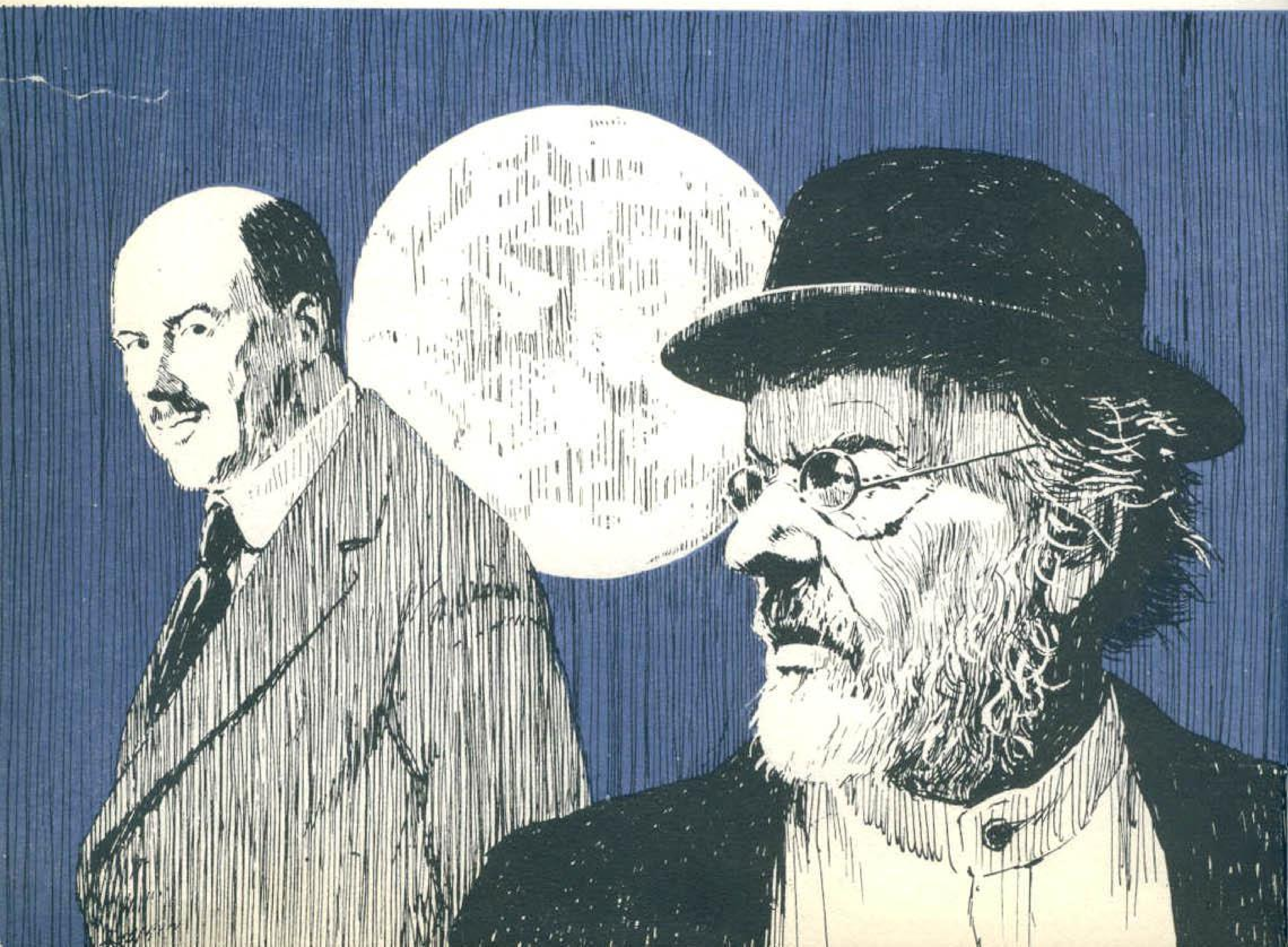
He wrote many books on his theories and made models of his rockets, some of which can still be seen today in museums in Russia. On the anniversary of his birth in 1957 a special commemorative medal was struck in his honour, paying tribute to his work as a pioneer in theoretical space travel. Later one of the craters of the moon was also named after him.

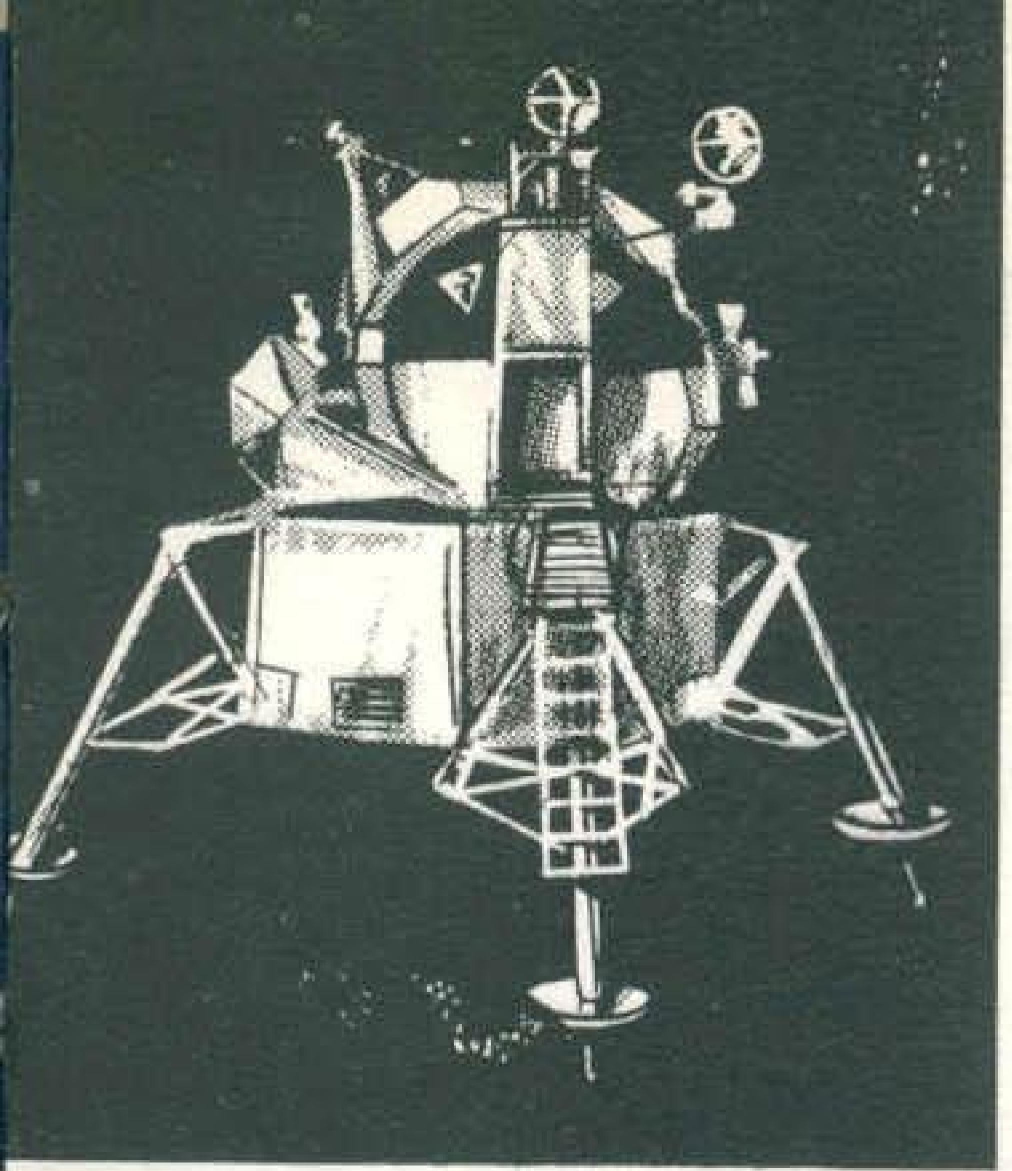
Meanwhile, in America, another rocket pioneer was already putting his theories into practice. Robert Hutchings Goddard had already caused quite a storm of controversy with his treatise on methods of reaching high altitudes, and as a student had alarmed his colleagues by performing what, to them, seemed several rather dangerous experiments.

Goddard was eager to actually make the rockets which incorporated all his theories, unlike the Russian schoolmaster who was purely a theorist. But it was not until the American government gave him a grant for research during World War I that Goddard was able to continue with his plans.

So, on 16th March 1926, at Auburn, Massachusetts, Goddard saw the successful launching of his first liquid fuel rocket, the forerunner of those which later played such an important part in the manned space flights which culminated in the actual moon landing.

Goddard worked on his rocket theories until his death in 1945, and both he and Tsiolkowski should be remembered as two of the earliest space pioneers whose dreams finally did come true.



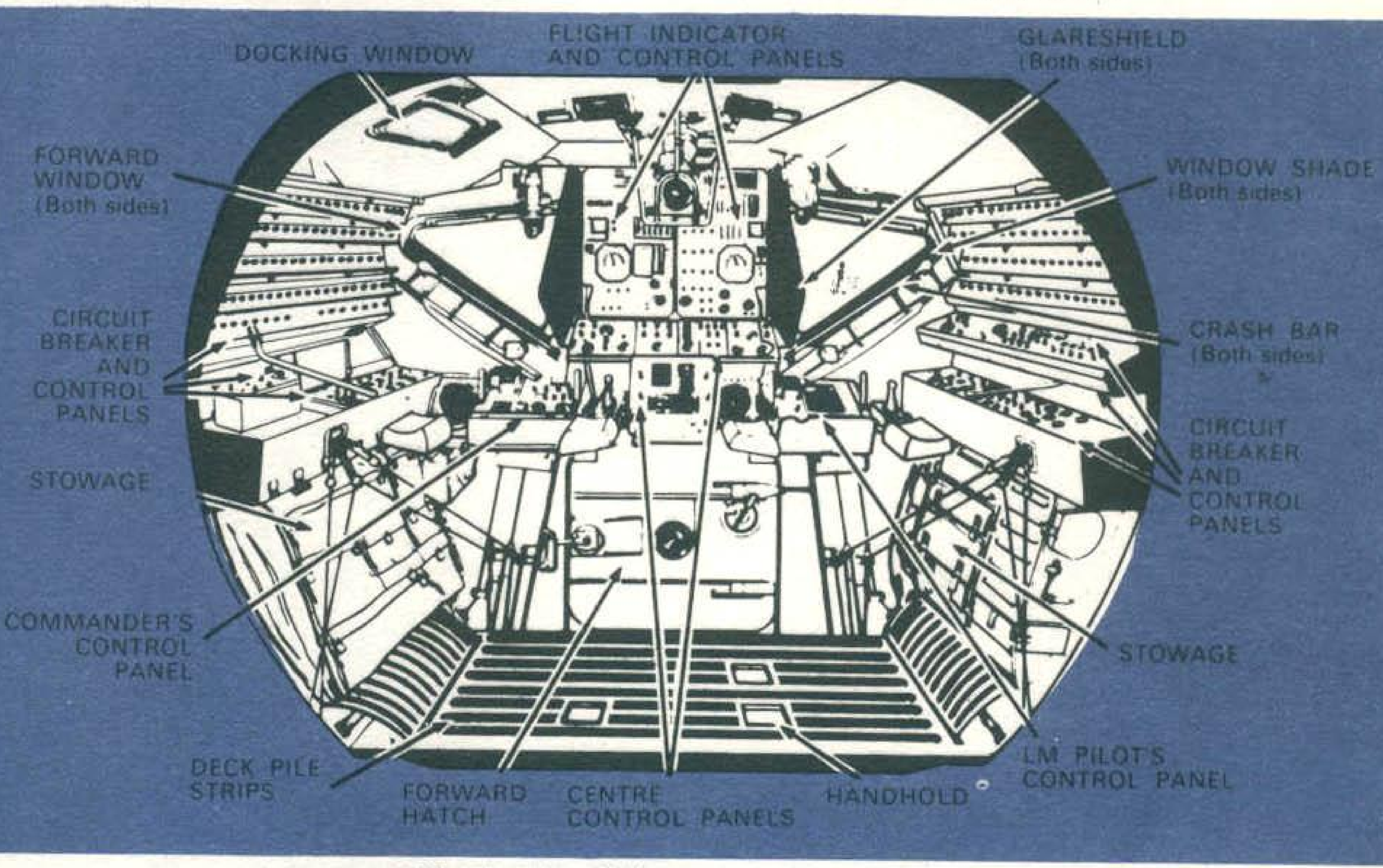


THE LUNAR EXCURSION MODULE

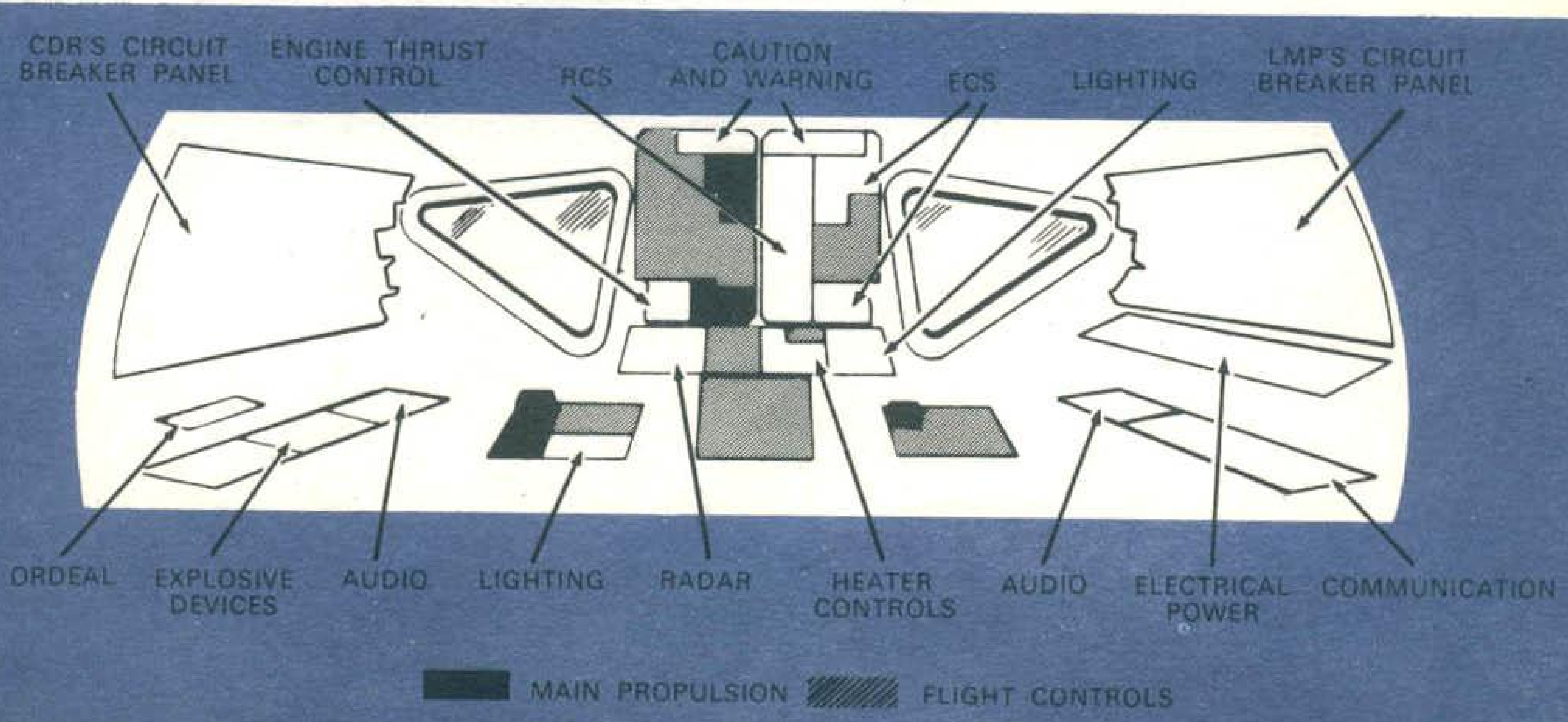
The Lunar Excursion Module enables the astronauts to descend to the surface of the moon. Their tasks completed, they rise from the surface to join their comrade orbiting above. This is carried out in the ascent stage of the Module, which comprises crew compartment and equipment bays.

The actual crew compartment is 92 inches in diameter and 42 inches deep. The commander stands on the left side and the module pilot on the right. To ensure maximum vision of the moon's surface the upper part of the compartment juts out from the lower part.

The area has control and display panels, body restraints, landing aids, windows and other important equipment.


DOCKING WINDOW
FLIGHT INDICATOR AND CONTROL PANELS
GLARESHIELD (Both sides)
FORWARD WINDOW (Both sides)
WINDOW SHADE (Both sides)
CIRCUIT BREAKER AND CONTROL PANELS
CRASH BAR (Both sides)
STOWAGE
CIRCUIT BREAKER AND CONTROL PANELS
COMMANDER'S CONTROL PANEL
STOWAGE
DECK PILE STRIPS
FORWARD HATCH
CENTRE CONTROL PANELS
HANDHOLD
LM PILOT'S CONTROL PANEL

The interior of the crew compartment.


CDR'S CIRCUIT BREAKER PANEL
ENGINE THRUST CONTROL
RCS
CAUTION AND WARNING
ECS
LIGHTING
LMP'S CIRCUIT BREAKER PANEL
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EXPLOSIVE DEVICES
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LIGHTING
RADAR
HEATER CONTROLS
AUDIO
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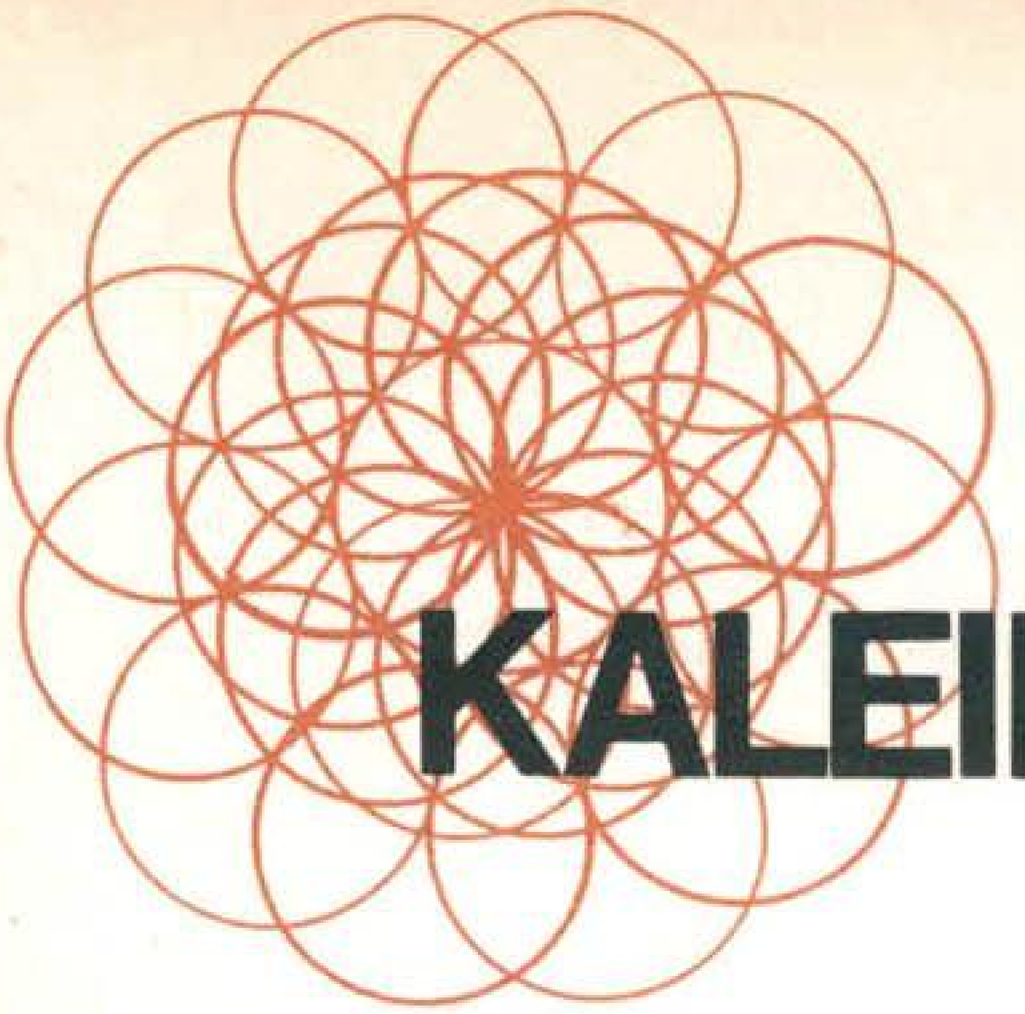
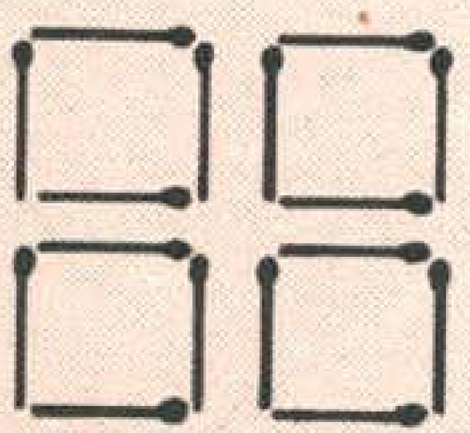
■ MAIN PROPULSION
▨ FLIGHT CONTROLS



KALEIDOSCOPE

1. Which is the odd man out?
   Rhinoceros Lion Giraffe Rock Hyrax

2. The picture shows 16 matches forming four squares of equal size. Can you rearrange the matches to form five squares of the same size?



3. Five boys were walking in a line. John was in front of Peter, but not in front of Nick. Rob was in front of Charlie, but not in front of Peter. What were their positions?

4. If you cross out the name of a famous pop group you will find the name of another famous group.
   THTEHBEERAOLLTINLGSTEONSES

5. Can you change SHOE to FOOT in three stages, forming a new word at every stage?
   SHOE _ _ _ _ _ _ _ _ FOOT

6. A turkey weighs 6 lbs plus half his own weight. How heavy is the turkey?

7. By answering the clues correctly, you will find that the four words read the same both downwards and across.
   1. You do it to sugar in tea.
   2. To become less energetic.
   3. A part of the human eye.
   4. Remainder.

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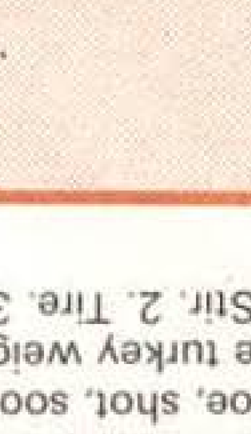
2			
3			
4			

Answers:

1. Lion. All the other animals have hooves.
2.



3. Nick, John, Peter, Rob and Charlie.
4. The Beatles, the Rolling Stones.
5. Shoe, shot, soot, foot.
6. The turkey weighs twelve pounds.
7. 1. Stir. 2. Tire. 3. Iris. 4. Rest.

Lighthouse in the Sky

Sputnik I, launched on October 4th 1957, heralded the beginning of the Space Age, an age in which could be seen the replacement of science fiction with fact.

But when we think of the Space Age it is easy to forget the useful facets of scientific discovery in the blaze of glory which surrounds the more dangerous and spectacular exploratory missions. This is not to detract from the importance of these daring experiments – which, of course, deserve all our admiration and praise—but to serve as a reminder that the Space Age has also provided us with some practical aids in our everyday lives.

Satellites in everyday life

Directly or indirectly our lives are affected by the numerous satellites now in orbit around the earth, whether it is for the navigational help to ships, perhaps bringing food from other countries, or meteorological reports, warning of typhoons or violent storms, or, of course, for communications, either by telephone or television. All these things help in our day to day lives.

In the past ships have had to depend very much on their compasses and on the sky at night to find their position on the ocean. Calculating by the stars is fine on a clear night, but a cloudy or foggy night meant trouble. Radios, of course, were a help and still are, because they are needed to pick up the radio signals from the orbiting satellites. Once the signal has been picked up then it is an easy matter to calculate position, just in the same way as in the old days when the stars were lighthouses in the sky. But in the Space Age, it isn't necessary to have a clear night, just a radio receiver and a satellite out in space.

As well as our lighthouses in the sky we also have vast numbers of weather watchers who can transmit messages about air flows, humidity, etc., down to earth. This means that the receiving stations on earth can now observe weather conditions on over ninety per cent of the earth's surface instead of only five per cent, as in the past.

Scientists believe that such a system will be very efficient in the future when the whole project is complete, in which case we will receive absolutely accurate forecasts. Wrong weather forecasts will then be a thing of the past.

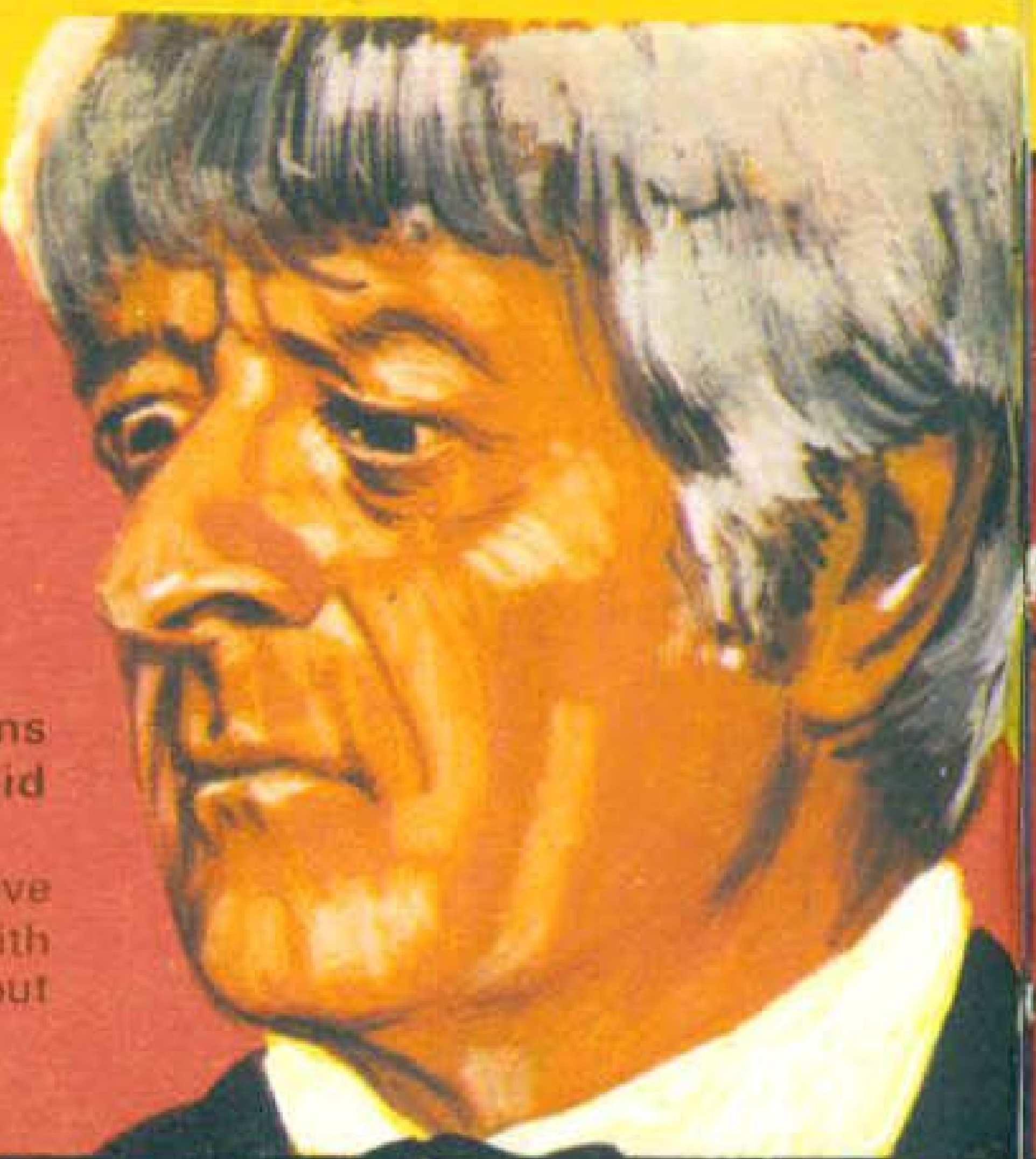
Communications satellites work in a slightly different way to the other two kinds mentioned, in that they not only release signals but are capable of picking up signals and then passing them on, perhaps to another part of the world.

Telstar is probably the most famous of these, as it was the first satellite to relay television signals within seconds direct from and to many countries of the world. In 1962, Telstar seemed to be failing, but a radio signal transmitted from earth on January 4th 1963 was all that was needed. It worked and Telstar was back in action.

Within the next few years it is possible to predict that space research will benefit us more and more in our everyday lives, not only in the things already mentioned, but also in materials for industrial and consumer goods.

Space research does aim primarily at space exploration, but benefits have been and will always be earthbound.

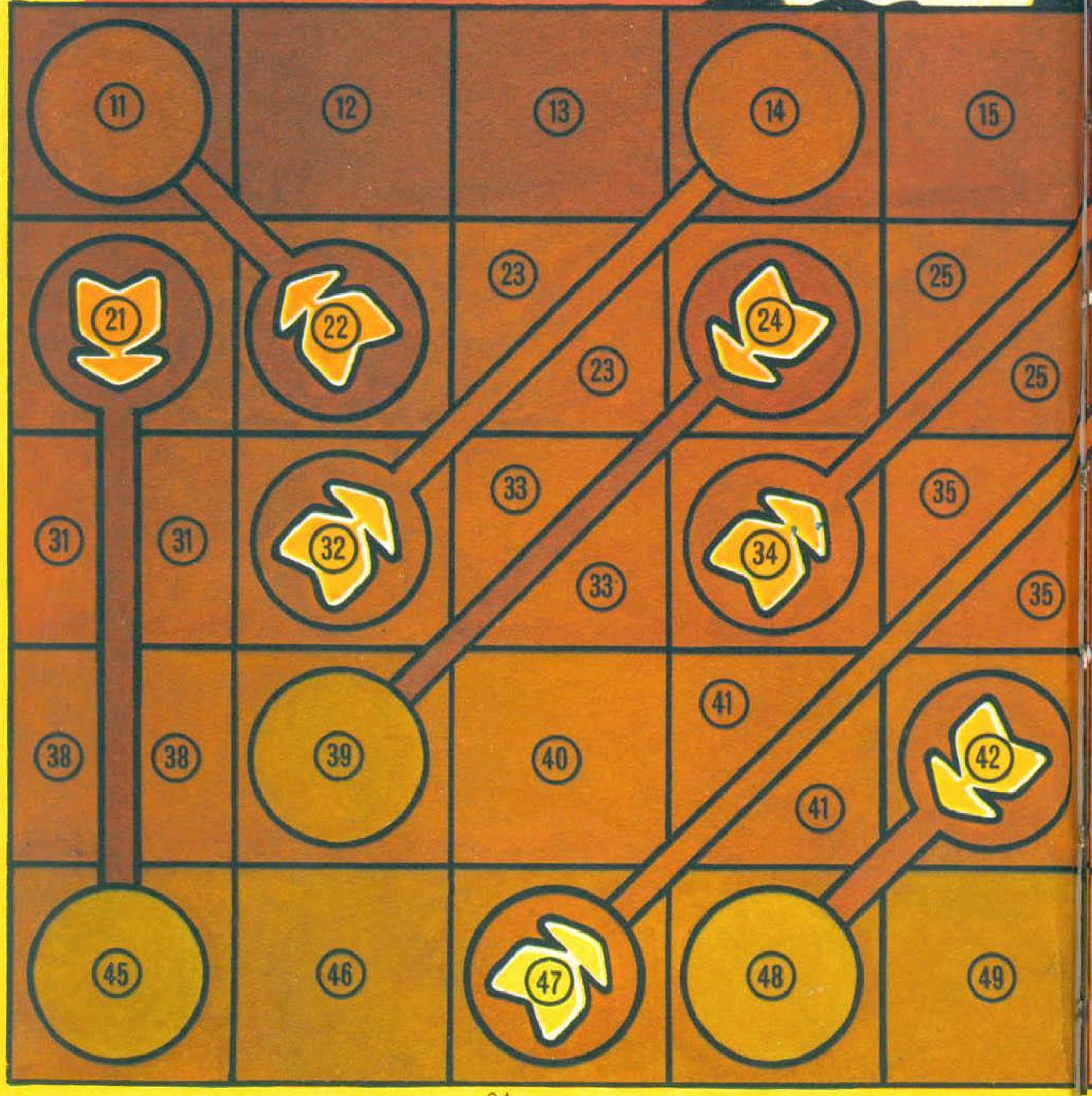
the space chase



Dr Who was trying to repair his damaged car when the Silurians stole a vital component. The doctor is tracking them with the aid of a portable materialiser. Follow him on his quest.

The game is played by two or more people. Throw a six to start and move along the lanes according to the number thrown. If you land on a circle with an arrow follow the direction of the arrow to the corresponding circle, but if you land on one without an arrow move in the normal way.

The winner is the first traveller to reach the Silurians.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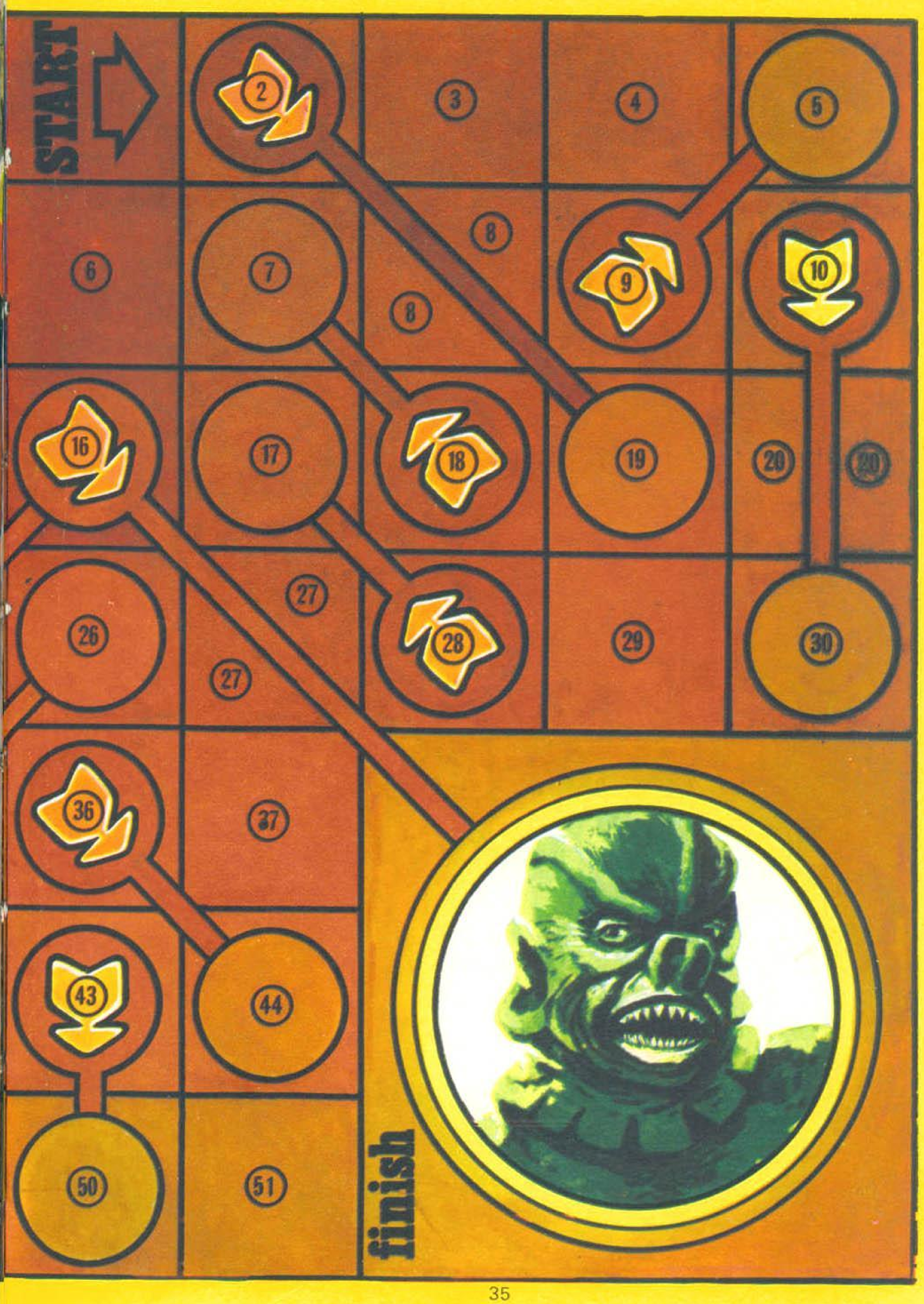
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THE GHOULS OF GRESTONSPEY

LIZ Shaw saw the thing first, and her cries split the night air of the Scottish glen.

Peering through the gloom, Doctor Who saw her form dimly outlined against the weird glow that was coming from ahead, that glow which had been reported before in this remote Highland glen and which had brought a detachment of UNIT to investigate.

Dashing forward, he grabbed her waist.

The misty glow deepened and deep in its interior there seemed to be a suggestion of a solid form. But the doctor could not speculate on that now; he was too busy trying to drag the screaming girl backwards. It was as though he was pulling against a most powerful magnet. Not by a millimetre could be gain any pull on her. Her screams rang out shrilly in the chill night air and desperately he tugged and hauled, shouting to her to encourage her to resist the force. But she seemed to be quite beyond any such effort and Doctor Who realised that she was in a state of advanced hysteria.

Slowly and inexorably the pair, locked together, were drawn towards that dimly glowing shape which wavered and shone, first seeming solid and then seeming to be only a phantasm of drifting mists. The pull grew stronger and they were dragged further towards the thing, which had not changed its position.

The doctor felt no dilemma here. He must not release the girl, otherwise he felt that some dreadful fate might overwhelm her. With all his mental power he fought off the waves of . . . of something . . . what could it be? His brain seemed to be chilling, as though icy tentacles were penetrating his skull, freezing first one sense and then another. His mind reeled and he fought still harder. But the power that held him in its grip was too strong.

The glow was all around them now and it was cold, cold with the ultimate vacuum of space, which he knew so well from his amazing wanderings all over the cosmos. But—this was Britain, this was a homely Scottish glen where crofters dwelt and worked and where, ten miles away, lay Grestonspey, the most advanced nuclear power-station!

Now his body was freezing and his grip of Liz's waist was relaxing. Then, like a marble statue, he stood at the centre of the dim, grey glow and Liz, who had staggered a few feet further on, now looked back and saw him. She had ceased to scream and now she stood with glazed eyes as she watched the form of the doctor vanish before her eyes. The mist began to move and to revolve like a vortex in a sandstorm.

She ran forward, crying out his name; but it was too late. His figure vanished, and the glow, like thin smoke, whirled round and round and then it too vanished, downwards, as though it was being sucked down by some gigantic pipe.

Then darkness and bitter aloneness, and she ran forward, waving her hands wildly through the spot where he had been.

"At last we have definite evidence," said Brigadier Lethbridge-Stewart, UNIT Commander. "Those reports of strange lights in the sky, of so-called 'flying saucers', reported round here, are proved by your experience, Miss Shaw. You saw this thing, this object. Now, tell me –"

"But – the Doctor!" cried Liz. "How can you sit there calmly like that. He's gone; he's vanished; he's been taken away by . . ." She stopped and a great shudder shook the cot on which she lay.

The Brigadier looked a little put out and he spoke stiffly to her now. "Doctor Who is a scientist," he said crisply. "He is, by his own account, the most transcendent scientific genius of all time. I have no doubt that wherever he is he will be carrying on his work, which would appear to be that of ferreting out all sorts of strange happenings." He gave a laugh. "He can't ever have found much stranger than this, can he? Sucked down in a cloud of smoke by a celestial vacuum-cleaner! He'll be back soon enough with some extravagant tale or other.

"Meanwhile, you lie quietly, Miss Shaw, you've had a most frightening ordeal. I myself will take a detachment out to that spot. You've described it sufficiently for me to find it. It'll be dawn soon. We will find your doctor or we'll know the reason why. This is Scotland, dear lady, in Great Britain, not some fantastic planet such as he prates about. Get some rest and we'll discuss this later when we bring him in."

Human beings like ourselves could not live on Mars. There is no oxygen in its atmosphere worth mentioning. Its very thin atmosphere could barely support simple plants.

Doctor Who woke to the most intense cold he had ever known in all his long life. He was amazed that in cold so fierce his bodily processes could even continue, or that his consciousness was able to function at all.

Somehow, he knew he was underground. The deadness in the atmosphere indicated that. There was no light, but instinct told him that walls and ceilings were not far, and his two outstretched arms proved it. The touch on his fingers was damp and cold, as of water trickling down rock.

Feeling round, he found he was lying on a stone slab. Lifting his feet, he put them down cautiously. They met firm ground and he stood up. Now, from the floor, through his feet he felt a steady, throbbing vibration, not of machinery certainly but of something else quite unknown to him.

He attempted to walk in the thick darkness, but encountered solid wall in all directions but one. So he set his feet there and walked slowly along what felt like a passage, narrow and slimy-walled on either side.

He burst out into eye-searing light quite suddenly and saw the bars up ahead of him. Instinctively he drew back, but he was too late. Bars had come down behind him and to each side, and now he was caged completely in a box of iron bars. An expression of anger twisted his face. No one did this to *him*.

He found, when he had calmed down, that his cage was but one of many. And each held a human being! They all stood motionless and from the expressions on the faces of the ones on each side of him, they were in what looked very much like a state of suspended animation!

His thoughts rioted. Where was he? Had Liz escaped? Would she still be alive? Was she in one of these cages? No, she had been outside that dim mist cloud. Would she have been strong enough to make her way back to the Command Post established by UNIT in this remote Highland glen so close to the Grestonspey Nuclear Power Reactor Station?

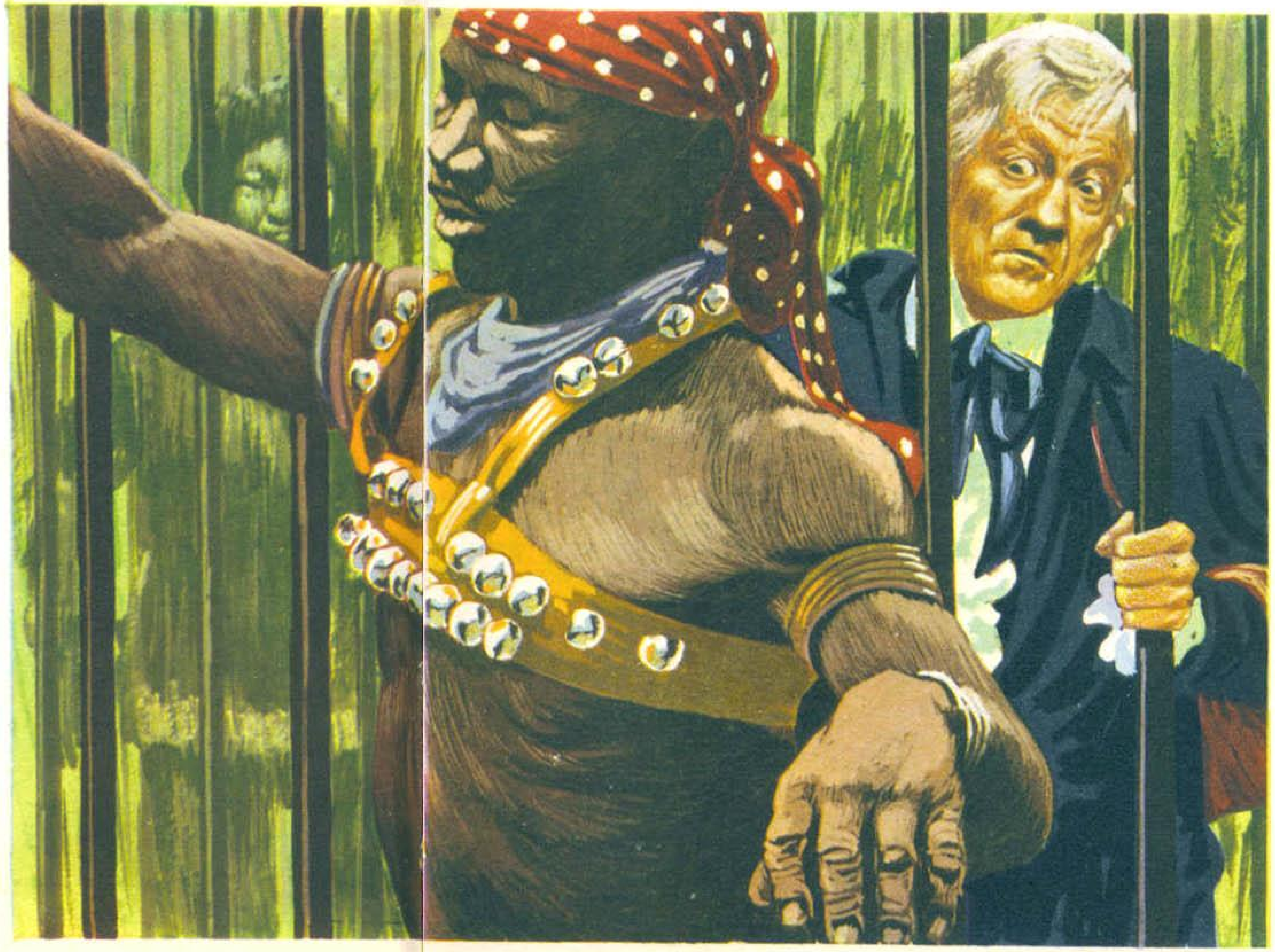
He looked closely along the lines of cages but could see no one like Liz. The motionless forms astounded him. Many were Europeans but there were also African natives, several Eskimos, Russians, Americans, in fact specimens of possibly every race on Earth. Had he been dragged into some cosmic natural history museum, some human zoo? Was the section in which he found himself labelled HOMO SAPIENS, native of Earth, Sol Three? The idea was too ridiculous.

Now he peered to the front of his prison and saw several misty shapes hovering on the rocky floor beneath. Several of them had surrounded one of the cages, which had been moved from its place. The cage was placed in the middle of the arena by the grey shapes which now surrounded it.

A blinding ray of light shone down from the top of the cage beneath and the still human figure inside sagged lifeless to the cage-floor! His attention was so riveted to the scene below that he almost fell victim to the light that now came down from the top of his own cage. He felt the stiffening coming over him and he struggled against it. His struggles took him to a corner and he made himself as small as he could until the light from above went out. That would be the means by which these foul creatures made their captives rigid, and at least he had escaped that fate.

Then he felt the cage moving and saw that it was going over to take the place of the now-empty cage from which the still, slumped figure had been taken.

He moved about violently inside his cage when it stood in the midst of the grey shapes and the mysterious guardians became still. He could see no faces and no eyes, but it was evident that, in some unknown way, he was being watched. They would be puzzled as to why he was not standing still, like all the others. The brilliance did not come down from the cave-top. Insted, his cage-door opened and he moved out, not under his own will, but drawn out by the same force that had drawn first Liz and then himself into the middle of the grey, swirling vortex he had recoiled from in horror up on the surface.



"This is the spot, Brigadier," Liz said, at dawn next day. "Look, you can see that the grass hereabouts is trampled down."

Lethbridge-Stewart stared round, at the mountains and the glens, at the tops of the squat, grey cylinders in the next valley denoting the Power Station. Frowning, he drew out an ordnance map. "Barren moorland, Miss Shaw, nothing else here. No tunnels, no diggings, no earthworks."

"You had that report of the power loss from the main reactor chamber?" she pointed out, and he looked angrily at her.

"That report was 'Restricted—Top Secret!'" he retorted. "How did you come to know of that? There is the Official Secrets Act, you know—"

"Rubbish!" Liz said firmly. "Someone is stealing power from the reactors, raw atomic power, and the station is ten miles away. There is something underground and that something has Doctor Who in its clutches."

The UNIT Commander relaxed. "What do you suggest we do, Miss Shaw? Shall we dig a pit down there? Solid granite not far down, I feel sure. If your doctor friend was spirited away from here, where is the hole, the trapdoor, or what have you?"

A single shot rang out from the right and he spun round furiously. "Who fired that shot?" he yelled. "I'll have that man in the guard room. Captain Williams, see who that blundering fool is."

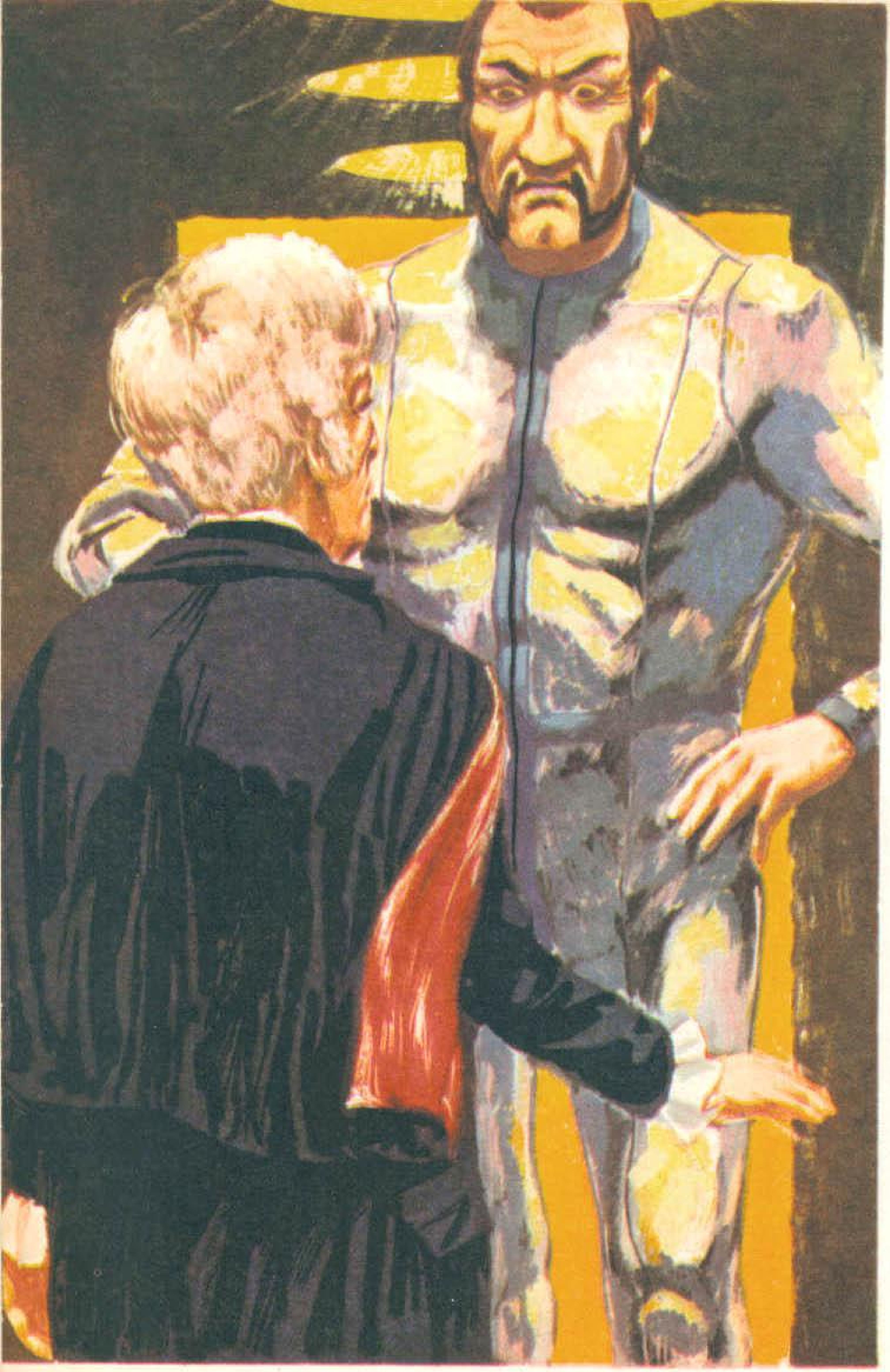
The captain sprinted to the rear of the detachment. The marksman was a soldier who was reduced to a state of gibbering panic.

"A *flying saucer*, sir!" he stammered when Williams got to him. "Just coming in over that hill over there. And grey, shapeless blobs waiting for it. It was all grey and shimmery, like those U.F.O.s you hear about."

"Now then," roared Lethbridge-Stewart when the man was brought to him. "Where is your flying saucer now, you blockhead? Firing off like that! Are you a soldier or an idiot?"

"It's there all right, sir," said the captain, and he pointed. "Either the one he fired at or another. By heavens, this one's coming up *out of the very ground!* I can't believe my eyes! It's against nature . . ."

They all drew back as the misty, round shape appeared again. This



time it appeared not a hundred feet from where they were and it was coming out of the ground as if the granite and soil and heather was water or mist.

"Hold your fire," roared the Brigadier as several men raised their rifles. "Keep back. If this is an alien vessel, it might kill us all before any of us could fire. Miss Shaw, keep back, I tell you, keep back . . ."

"No, no," she cried. "Look, it's opening. There's someone there!"

The misty, grey shapes were all around the doctor and he was moving towards a cleft in the rocky wall. Lights shone now and he was in surroundings that were at least vaguely human. A tall, humanoid creature met them in the passage and the misty things drew back. The new being flicked his fingers and Doctor Who relaxed and could move his limbs and body.

"And what, pray, might be the meaning of this, sir?" he demanded in a fine fury. "Do you know where you are? This is Great Britain, sir, and I can assure you that our forces can still withstand invaders."

"Shut up, animal!" snarled the man. For this was a true man, dressed in silvery coveralls. A huge, powerful man with an air of supreme authority. "What is the hitch here? We are due to depart from this cursed spot in ten scintilla. Cassiopeia is at the optimum angle with Betelgeuse in Orion. If we do not leave at the correct scintilla we add twenty million miles to our return trip. What is this creature? Why is it moving? Its psychic energy should by now have been drawn out. Are these mindless blobs of energy, our Proto slaves, flagging? They should be well-fed enough from the psychic force drawn from the natives we captured."

The grey shapes surrounding him appeared, to the doctor's astonishment, to be communicating with the newcomer, though there were no sounds. The man's face changed to a grin of satisfaction.

"Full psychic charge, eh?" he ruminated. "Most powerful of the lot? Good, good. Stow it in the bunkers along with the others still living and I'll take a closer look at it when we are amongst the stars again. With their charges and the crude nuclear stuff from their reactor piles in our tanks now, we should make it in good time back to the home star. This will be a new thrill for our Zeld people. And a great honour for us, who are just a scout ship."

"I spoke to you, sir," repeated Doctor Who, getting more angry every second. He had not missed the significance of the strange crea-

The tail of a comet always points away from the sun, the pressure of sunlight being the probable reason. As the comet goes further away from the sun, pressure decreases, and the tail disappears.

ture's speech and now he felt he had some idea of what was going on around him.

There was no reply, and the creature turned his back as though the doctor had not spoken. This so infuriated Doctor Who that for an instant he quite forgot his fear of the great technology he could see all around him. He darted forward and dug his knee into the big man's back. Astonished beyond measure by this crude physical attack, the man lay back and drew out a complex, gun-like, gleaming object.

Its beam sliced through several of the Protos before it could touch the doctor. They vanished like wraiths of smoke and the doctor dodged the rays, having time to think that maybe the grey ghouls, who appeared to be the servants of these humanoids, were merely vortices of pure energy.

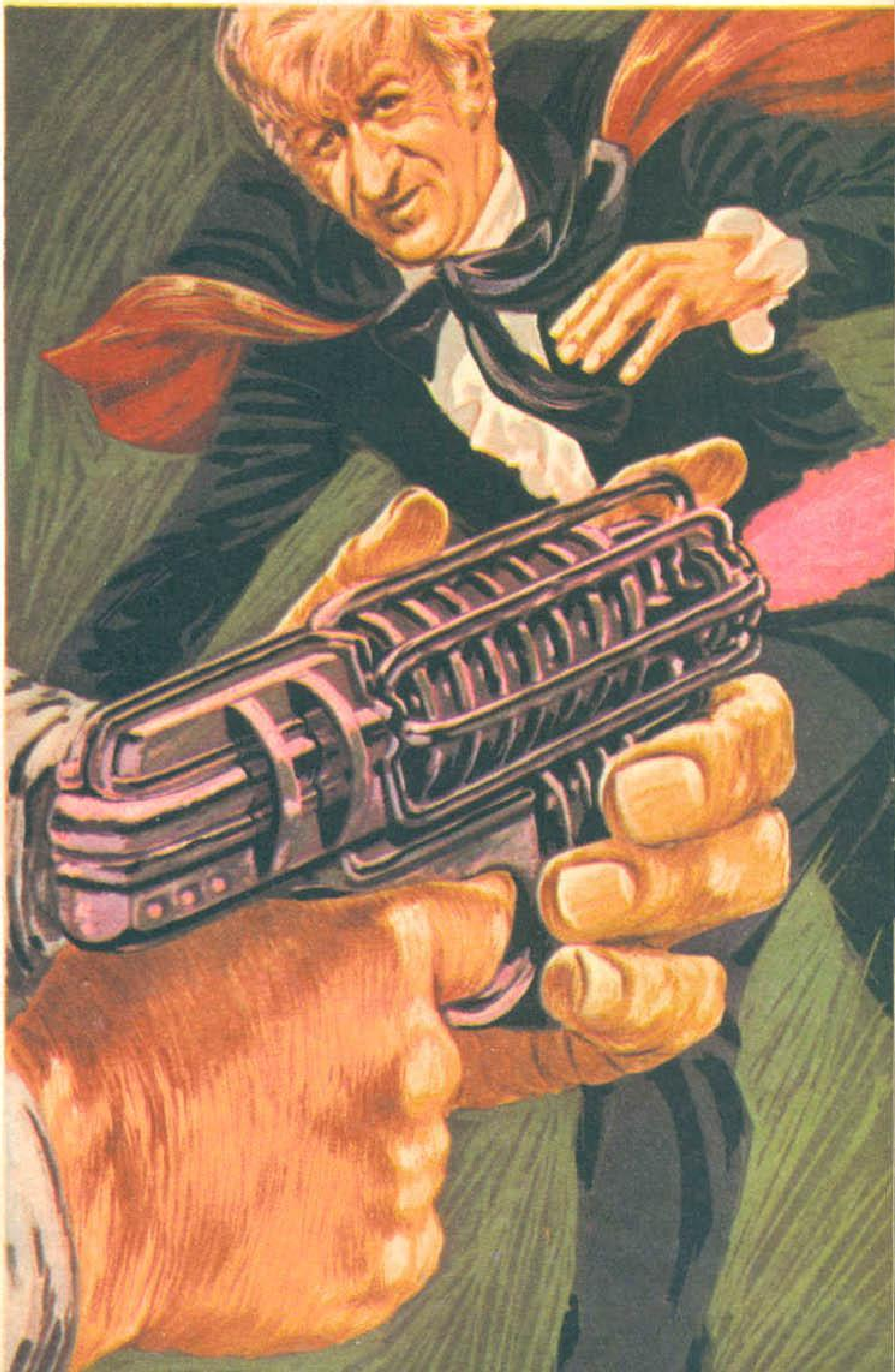
Now other humanoids were coming from behind the first, and the doctor was cornered. He retreated towards the main cavern and now saw that the great space was illuminated with a dim light that came from . . . could he believe his eyes . . . from a great, round disc of shimmering light. It must be a flying saucer, heaven knew how many feet down under this Scottish glen! *Inside* the granite! Was he dreaming and seeing the impossible?

Empty cages lay everywhere around and the entry slide was down. Without logical thought he dashed for it and the door closed behind him. The vessel began to move and, to his wonderment, it went towards the granite roof. He closed his eyes tightly as the solid rocks gave way like water or smoke. The slide opened and he stepped out into the air of Earth.

"Liz!" He grasped her hands as he nodded towards Lethbridge-Stewart. "Have all your men hold their weapons on this door, sir. Whoever's in there has some very fancy weapons but I feel that the good old zero five zero should have quite persuasive powers."

"In heaven's name, man," demanded the UNIT Commander. "What is all this about? You appear out of the solid ground—"

"If I knew, I'd tell you," chuckled the doctor. "Not the faintest idea, Brigadier. Something about star-scouts and Cassiopeia and the psychic energy inside living bodies. Ghouls from the stars, I think you'd call them. Inside that saucer, when we've winkled out the few crew that would be left, we'll find human beings snatched from various parts of Earth, used to refuel this ship back to its base an unknown zillion of miles away. Let's hope it's a very long way indeed, for this scout won't be reporting back. The rest of the crew are about two hundred feet down inside the rock and they'll have to stay there forever, I fear. By the way, I don't think the Grestonspey Reactor Station will have any further problems about power loss. Now, have your men cover that door, Brigadier. These fellows can move solid objects through rock as you and I would wave a hand through steam. A first meeting with aliens like these just could be somewhat violent. Keep out of sight, Liz, my dear."



THE ROSE-RED CITY OF PETRA

Dr. Who and his companions have discovered many strange cities, forgotten by civilization for thousands of years, which have often revealed many exciting objects or people from the past.

A STUDENT'S RUSE

One person who shared a similar experience, in the year 1812, was Johann Ludwig Burckhardt who, while travelling through south west Jordan in Arabia stumbled, quite by chance, on the ancient ruined city of Petra which was later described as "that rose-red city, half as old as time", by the poet Dean Burgon.

Burckhardt, who was a young Swiss explorer, had heard tales of a strange city reputed to be full of ancient treasure, but he was unable to find anyone who was willing to take him there.

So he pretended that he wished to make a sacrifice to one of the ancient Biblical people on Mount Hor, which he had worked out must be near this strange forgotten city. He was thus able to explore the region thoroughly without arousing too much curiosity . . . and at last his patience was rewarded.

HORSES ONLY

The city could only be entered on horseback through a narrow gorge, on either side of which rise steep cliffs, reaching a height of over two hundred feet. Today, tourists wishing to see the wonders of Petra travel by car from Amman, and then hire horses and a guide near the Rest House, where travellers may wash and refresh themselves.

THE KHAZNEH

One of the most outstanding examples of the buildings of Petra, which are actually cut into the limestone cliffs, and are in varying shades of rosy-red, is the *Khazneh* or Treasury, the front of which is decorated with statues and pillars and which stands some ninety feet high. A tiny urn standing in a little temple at the top of the *Khazneh* was once thought, wrongly, to be filled with gold. The Treasury is now completely empty, and archeologists believe that it was once the tomb of one of the *Nabataean* kings.

ANCIENT PETRA

Two hundred years before the birth of Christ, Petra was seized by the Nabataeans from the Edomites, and they used the city as a place of call on the route to and from the Dead Sea as they traded with their camel caravans. Often, the unscrupulous ones amongst the traders preyed upon unsuspecting merchants travelling through the narrow gorge, and later demanded money if they were to go by unmolested.

The Nabataeans, who adopted for their emblems the symbols of power and wisdom, the eagle and the snake, also produced some delicate chinalike pottery, and minted their own money.

THE ROMAN INVASION

But few people could hold the narrow gorge against invaders, and in turn the Nabataeans were driven out by the Romans. More buildings appeared under Roman rule, but eventually, when an alternative route via the Red Sea was discovered, few travellers passed through Petra, and in time the Roman province was no more.

THE CRUSADERS

But Petra was still not forgotten. When the Crusaders came to the Holy Land to fight the war of the Cross and the Crescent they too discovered Petra, and many of the buildings were turned into Christian shrines. But they also returned to their homeland, and the rose-red city vanished into the mists of time until young Burckhardt started his own explorations.

MODERN PETRA

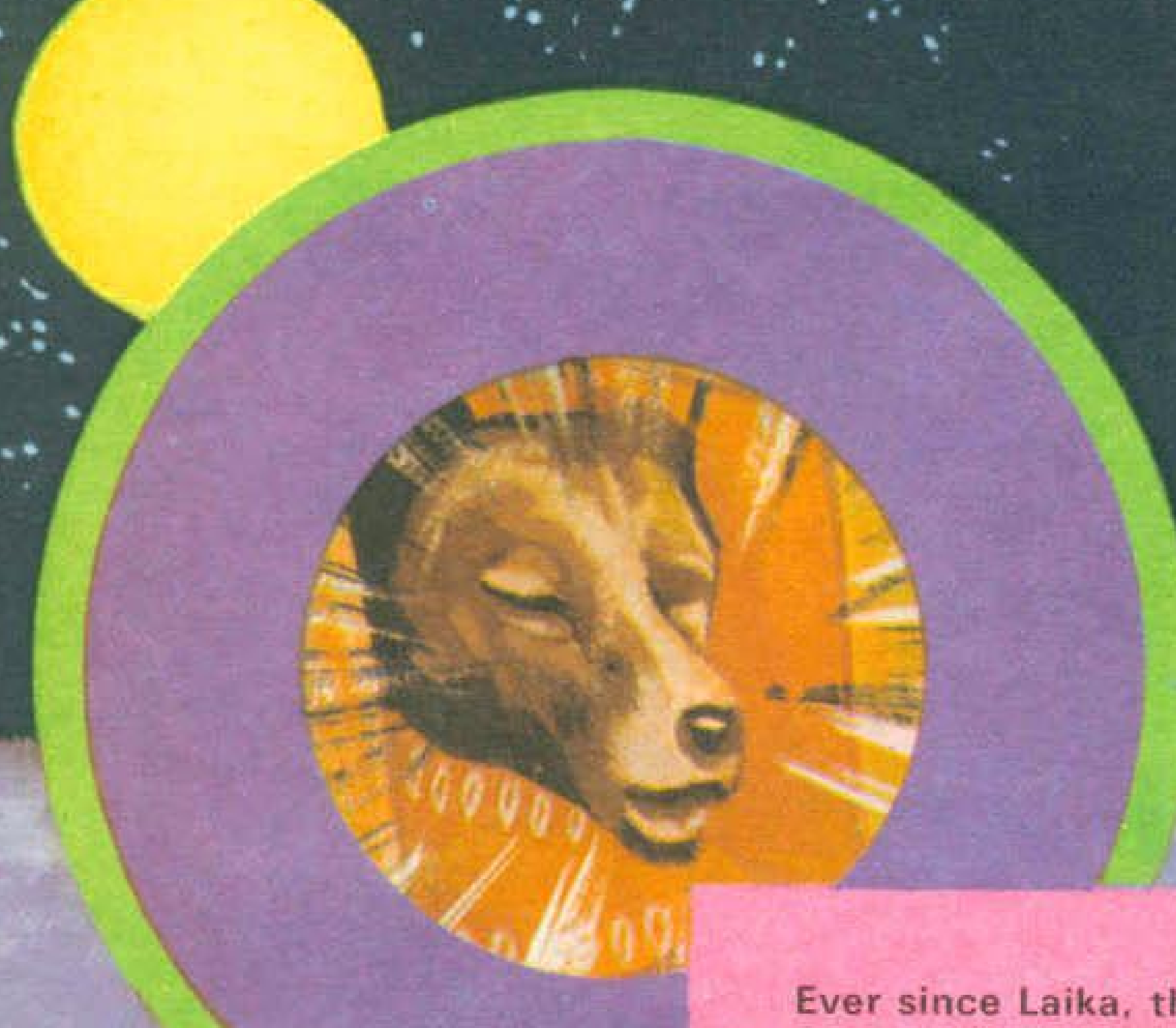
Today archaeologists and tourists travel from all over the world to visit Petra. Although little remains of the Roman occupation, there is still a Triumphal Arch and a magnificent amphitheatre which have survived several earthquakes, and several caves in the area have been turned into bedrooms for visitors. The amphitheatre has about thirty tiers of semi-circular seats . . . surrounded by tombs. Recently there has been much talk of putting on modern plays again in this ancient theatre, which should prove of great interest to visitors.

THE HIGH PLACES

Well worth a visit while in Petra are the High Places where, in olden times, the ancient gods were worshipped. One particularly beautiful one, cut in the mountainside is the Obelisk Tomb, where the colours of sunshine and dawn blend exquisitely together. The tall, four-sided, tapering pillars, ending in a pyramid, give the tomb its name.

Like Dr. Who, the young explorer, Burckhardt, stepped back into a different day and age when he rode through the Siq on that day in 1812, and – like the hundreds which followed him at a later date – found a city as eternal as time itself. He saw a city standing silent, alone and beautiful: the rose-red city of Petra, lost, and now discovered once more, so that all may come and see its great wonders.

ANIMAL ASTRONAUTS

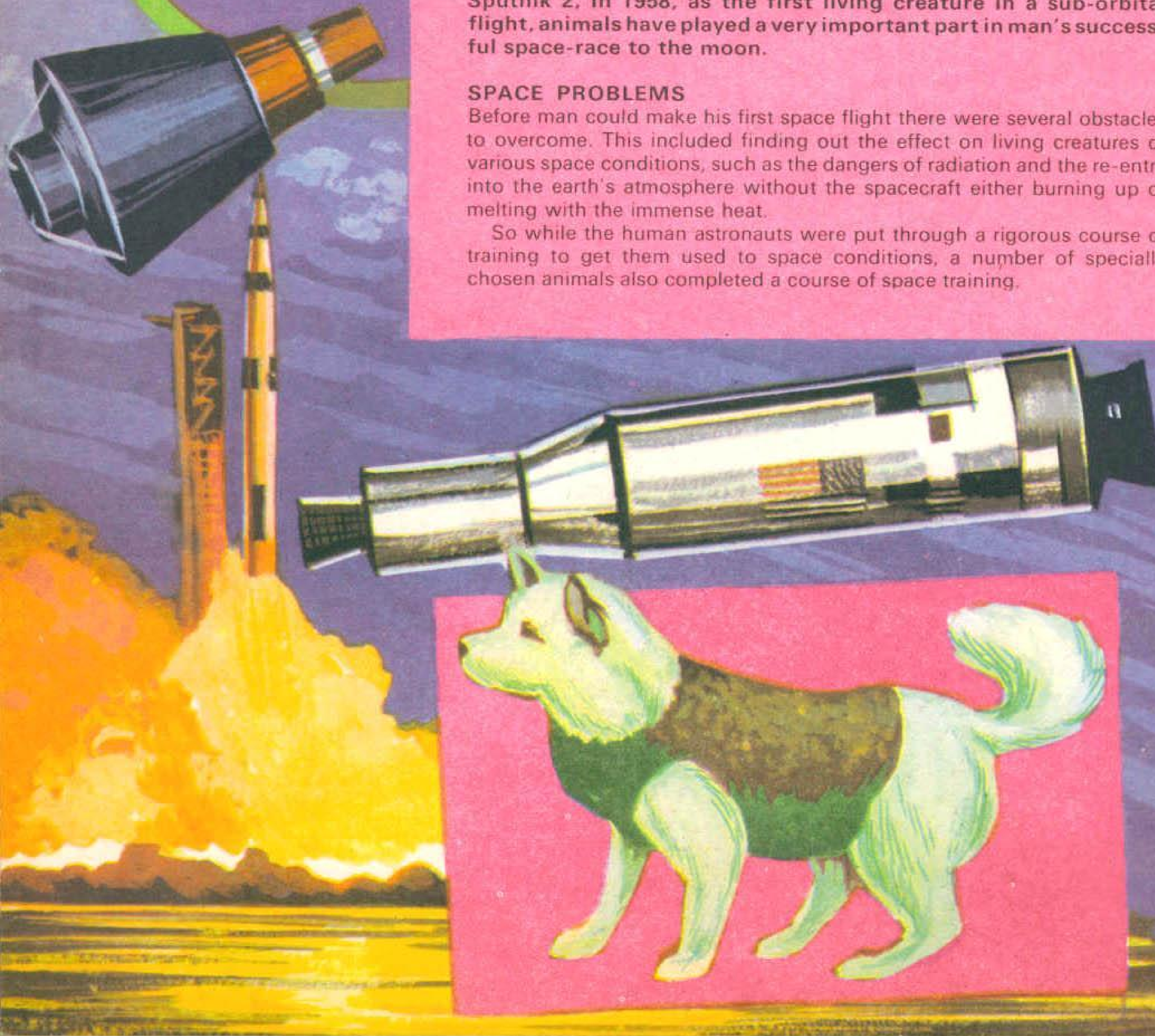


Ever since Laika, the little Russian dog was sent up in space in Sputnik 2, in 1958, as the first living creature in a sub-orbital flight, animals have played a very important part in man's successful space-race to the moon.

SPACE PROBLEMS

Before man could make his first space flight there were several obstacles to overcome. This included finding out the effect on living creatures of various space conditions, such as the dangers of radiation and the re-entry into the earth's atmosphere without the spacecraft either burning up or melting with the immense heat.

So while the human astronauts were put through a rigorous course of training to get them used to space conditions, a number of specially chosen animals also completed a course of space training.



THE RUSSIAN ANIMALS

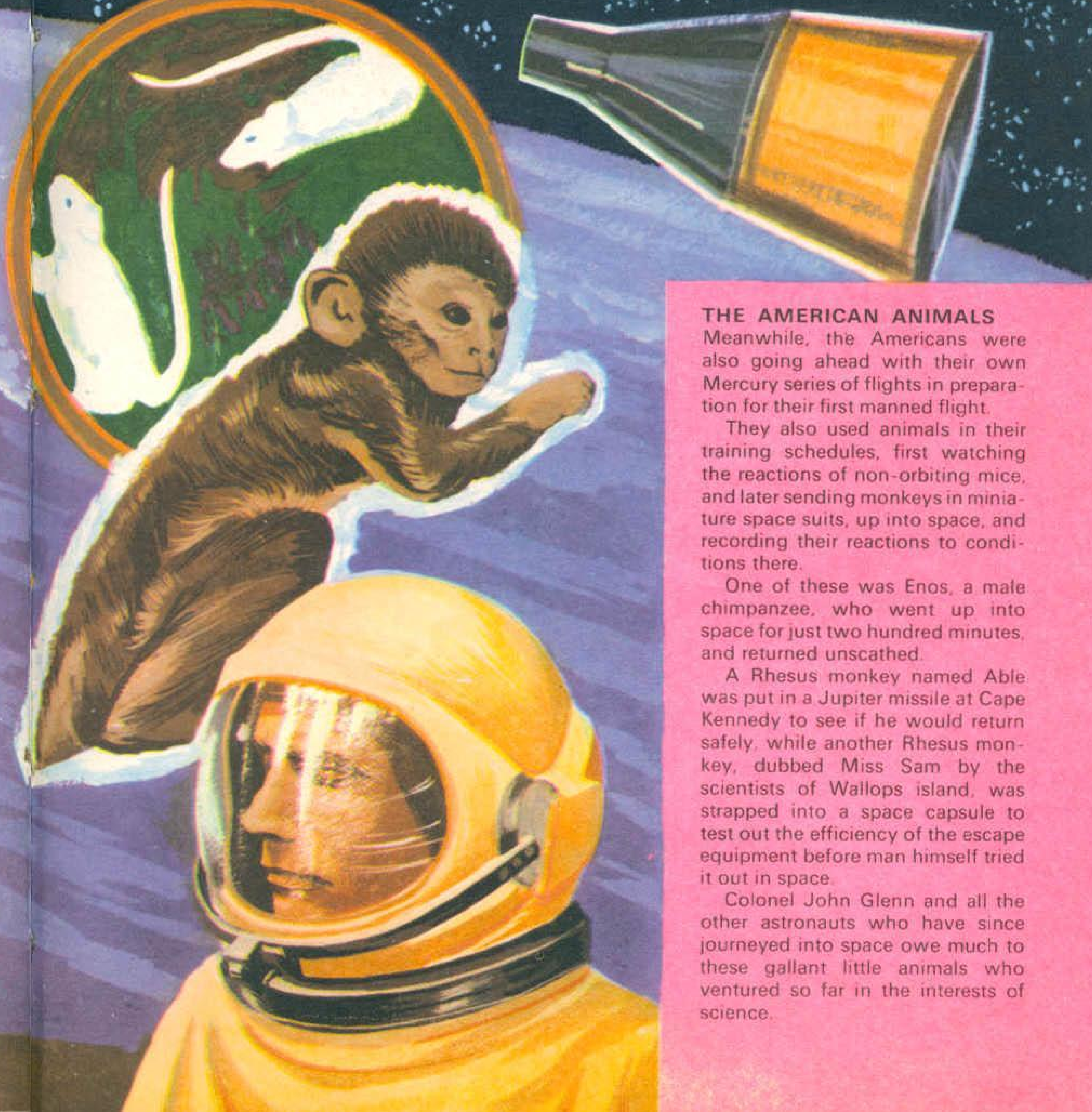
Laika, a small Husky type dog was sent up in the spaceship Sputnik 2, after months of sitting in an earth-bound satellite, showing neither nerves nor temperament. This dog, weighing barely twelve pounds, made space history and gave the scientists much valuable information about conditions in space.

In 1959, the Russians gave another dog, called Otvazhnaya, a bright-eyed, furry rabbit for company as he was shot into space. Both animals returned from their space trip safe and well.

One year later, two further dogs, with the intriguing names of Belka and Strelka, followed the flight of a robot pilot into space in their Sputnik 5. The reactions of the two dogs were carefully watched by the scientists on a large television screen.

When the spacecraft was returned to earth, with both animals unharmed in any way, their capsule having been safely ejected from the main spacecraft, the problem of a safe re-entry into the earth's atmosphere had obviously been solved and the way was clear to an early manned space flight.

On April 12th 1961, less than one year later, Yuri Gagarin won fame as the first man in space, and his safe return was due in no small part to the two small animals who had made a similar trip just a few months before.



THE AMERICAN ANIMALS

Meanwhile, the Americans were also going ahead with their own Mercury series of flights in preparation for their first manned flight.

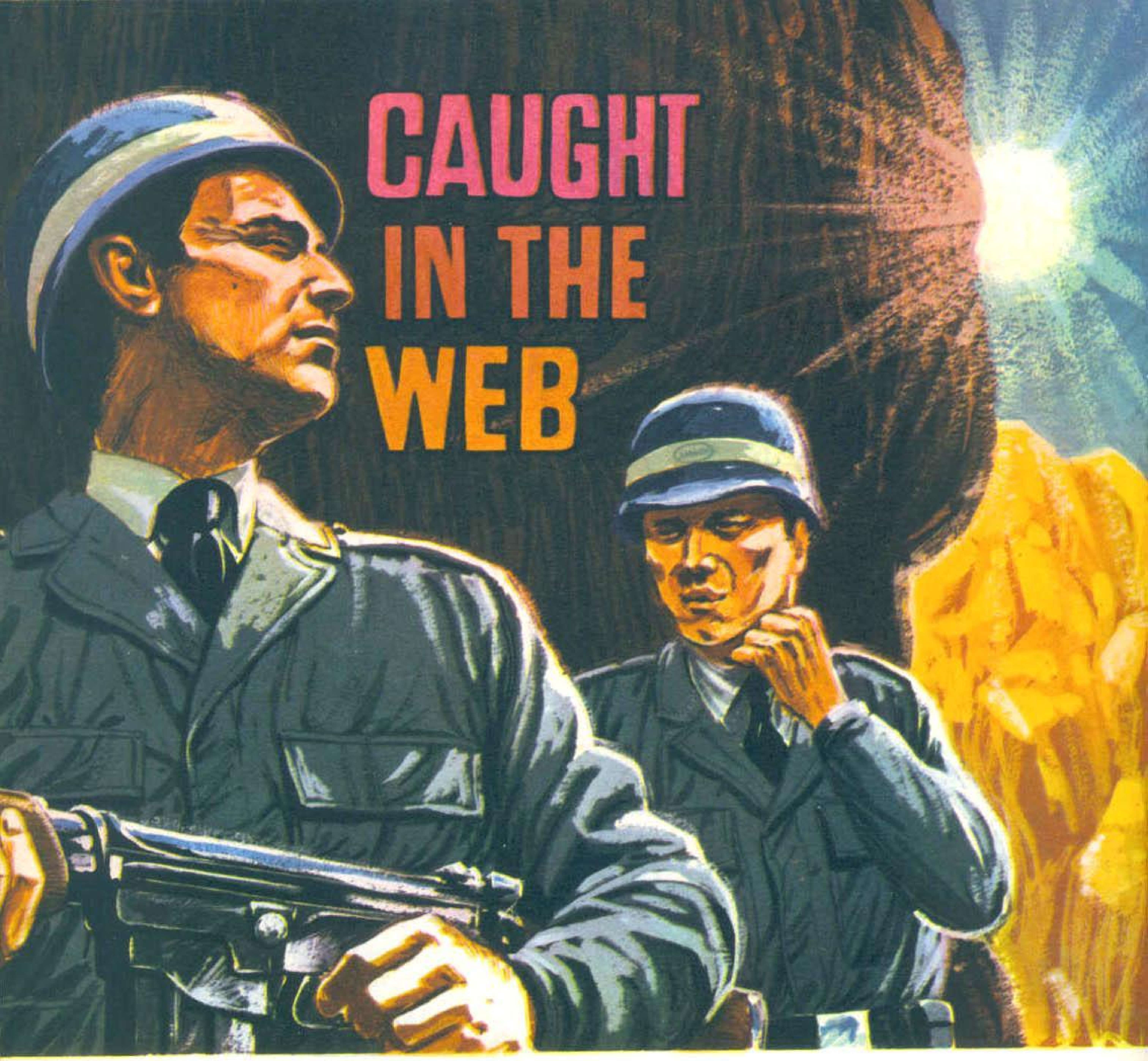
They also used animals in their training schedules, first watching the reactions of non-orbiting mice, and later sending monkeys in miniature space suits, up into space, and recording their reactions to conditions there.

One of these was Enos, a male chimpanzee, who went up into space for just two hundred minutes, and returned unscathed.

A Rhesus monkey named Able was put in a Jupiter missile at Cape Kennedy to see if he would return safely, while another Rhesus monkey, dubbed Miss Sam by the scientists of Wallops island, was strapped into a space capsule to test out the efficiency of the escape equipment before man himself tried it out in space.

Colonel John Glenn and all the other astronauts who have since journeyed into space owe much to these gallant little animals who ventured so far in the interests of science.

CAUGHT IN THE WEB



The hot sun was almost at its zenith, pouring heat remorselessly down on the rocky slopes of the Black Peak.

"Long duty ahead of us," said the UNIT guard wearily, huddling closer to the rock overhang that afforded a precious patch of shade. He put down his automatic rifle and wiped his sweating hands on the sides of his uniform.

The other guard moved his head to eye his companion. He licked dry lips and answered: "Cheer up, Dan. Six hours from now we'll be in a bar in Tripoli drinking iced beer."

The other shrugged. "*If* we survive the heat that long. What in thunder made them choose a mountaintop in the desert as a hideout for some screwball Italian scientist?"

"I shouldn't let Security hear you say that," advised his companion.

"I don't intend to," Dan assured him. "But I can *think* it, can't I? Doesn't make sense. What are we on guard against anyway? Nobody could get within miles of here without being spotted by our telescan." He paused, and kicked out moodily at a tiny black spider scuttling past his boot. "Even a spider wouldn't stand a chance of getting near Rossi," he growled.

The second guard said nothing. He was too busy looking for another patch of shade. But he thought: well Dan's right, this whole setup does seem a bit pointless. This Italian scientist – what's his name? Dr. Rossi. So his job is to examine this dust brought back from the latest planet probe. But why the big secrecy? Why call in United Nations Intelligence Taskforce to guard this laboratory carved out of the Black Peak? What's the pitch? They didn't give this treatment to the scientists who examined the moon-dust . . .

Had the two UNIT guards been able at that moment to peer over the white-overalled shoulder of Dr. Rossi as he worked in his laboratory they would have shed all doubts about the vital role they were playing.

"This – this is staggering!" breathed the scientist, as he watched the reaction of the planet-dust under the delicate wash of light from an ultra-violet machine.

He touched a button beneath the work bench, and a few moments later an erect figure strode into the room. He wore the UNIT flash on the sleeve of his neutral grey uniform.

Rossi swung round to meet him. "Brigadier Lethbridge-Stewart, I wanted you to join me in witnessing a truly historic moment," said the scientist, his voice sharp with excitement.

The UNIT commander nodded briskly. "Thank you, Doctor," he said. He moved closer to the work bench as Rossi beckoned.

Then the scientist touched a switch, plunging the room into darkness, except for the glow of the beam directed onto the planet dust.

"Now. Observe!" murmured Rossi.

He turned up the power of the lamp, and both men craned closer. For a moment there was only the hum of the machine. Then Lethbridge-Stewart sucked in his breath sharply as he saw an imperceptible movement among the greyish-brown particles piled on the glass slide.

"Impossible!" he breathed. For the particles had begun to shimmer, to rotate, and finally to rise until the small heap of dust was like a cloud hovering above the work bench.

The two men were rooted with amazement. They stared at the phenomenon, as if incapable of movement. But as the dust rose higher, they began to hear a faint high-pitched singing noise.

The Brigadier's keen ears noticed it first, and it sounded a note of danger at the back of his reeling brain. He grabbed his companion by the arm and pulled him away.

"Back!" he blurted. "For Heaven's sake – turn off the lamp."

The scientist seemed hardly to hear the warning. He stared round blindly. "Did you see –" he began.

Lethbridge-Stewart snapped into action. Thrusting aside the other man, he lunged for the switch and plunged the room into total darkness as the ultra-violet lamp went off. A moment later his groping fingers found the room light switch.

Blinking at each other in the sudden flood of normal light, the two men collected their wits. "You – you saw?" began Rossi.

The Brigadier nodded grimly. "I saw," he agreed.

They turned their eyes towards the work bench. The particles of planet dust were once more in a pile on the glass slide, as if they had never been disturbed.

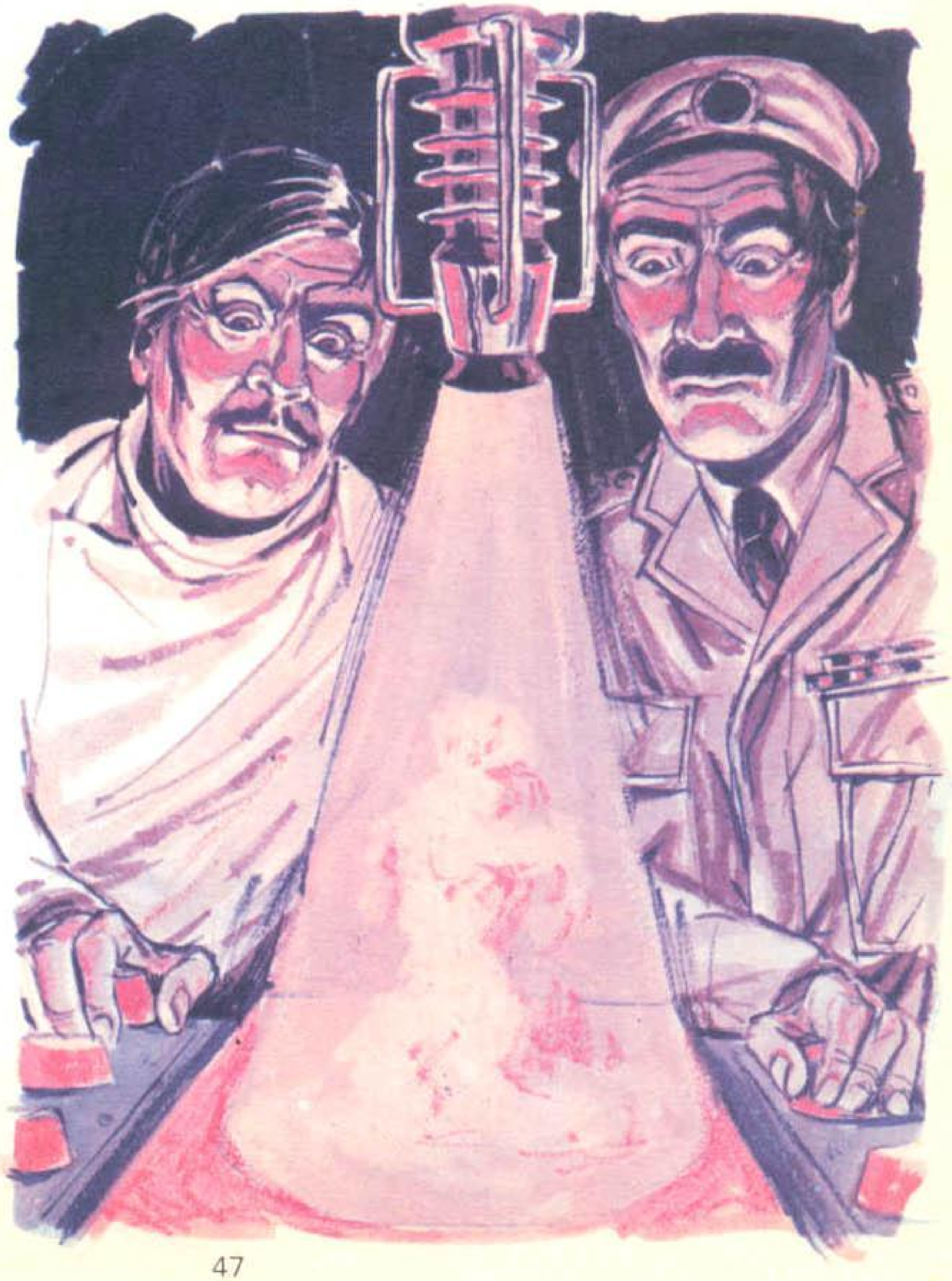
For a moment doubt flooded both their minds. Could it have happened as they imagined? Was it some kind of illusion?

They read these unspoken queries in each other's eyes.

Then the soldier spoke sharply, as his disciplined military mind took over. "You've obviously stumbled on something rather shattering, Doctor Rossi. What we both experienced a moment ago could be of tremendous importance to mankind, or it could be a tremendous threat. You agree?"

Rossi nodded quickly. His restless eyes denoted the feverish activity of his excited brain. "It was well that you chose this remote stronghold for my research on the planet dust," he said. "If any unfriendly Power were to learn of the secrets I am about to unlock from this dust —"

The soldier cut him short with



quick authority. "Doctor Rossi, I'm afraid I must ask you to defer any further research on the dust."

"What? Are you joking?" demanded the scientist.

"No. As Security Officer in charge of this project, I feel there are unknown dangers in any further steps. What we both experienced just now was a timely warning. To allow you to continue might be to sign your death-warrant."

Rossi stirred angrily. "I appreciate your concern for me, Brigadier. But I cannot draw back now. I am on the verge of a great discovery. I shall continue."

"No!" The Brigadier's voice came like a whiplash. Then, with iron control, he softened his voice and continued: "You must wait until I call in the help of a scientist who is well versed in the phenomena of Outer Space."

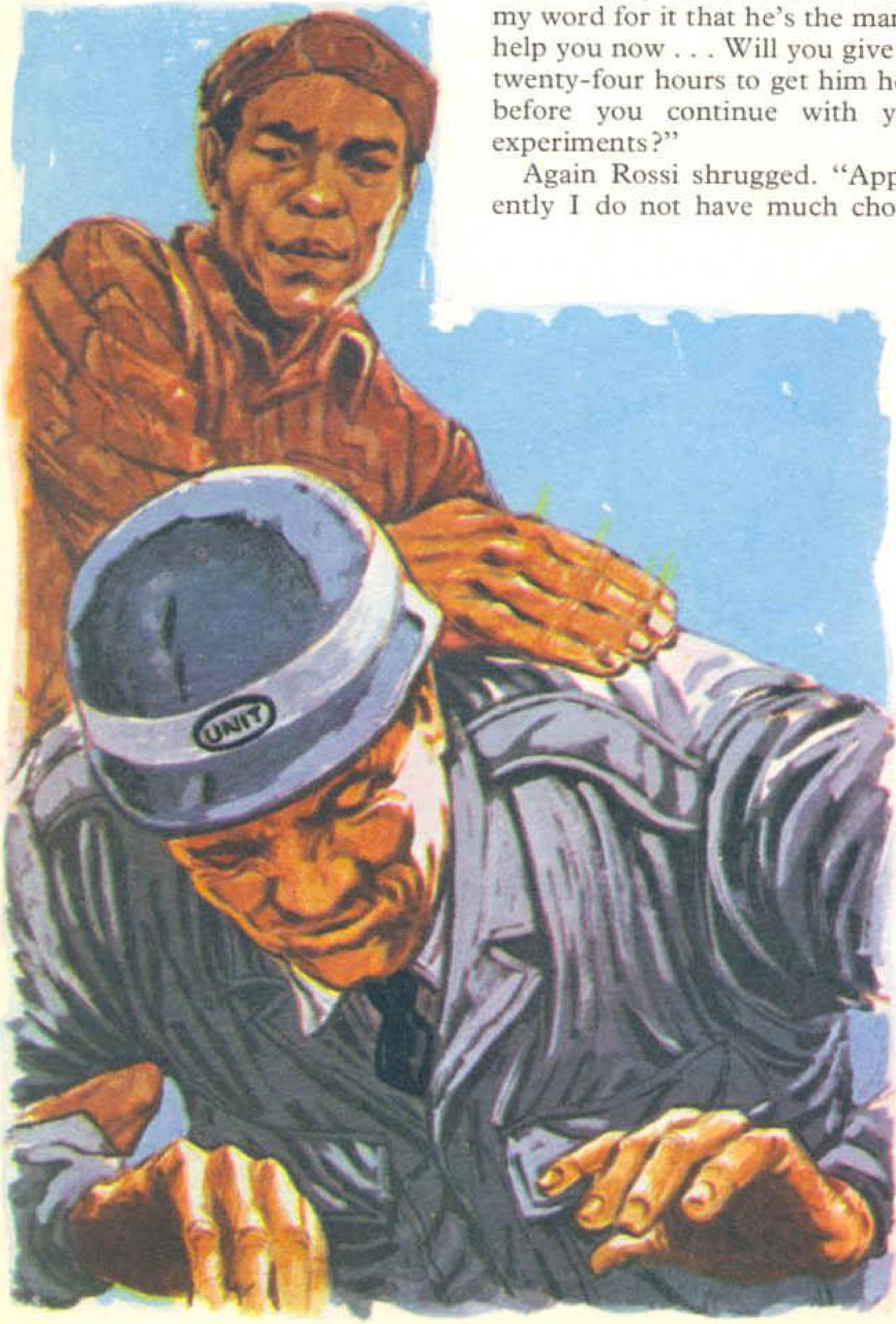
Rossi's eyes harrowed. "You are implying that my own experience —"

The soldier waved impatiently. "I imply nothing. Please do not take offence, Dr. Rossi. You are acknowledged to be the finest brain in this field of research. But – well, you've heard of Dr. Who?"

The other man shrugged. "I don't believe so," he said coldly.

Stewart sighed. "I was afraid of that. Well, you'll just have to take my word for it that he's the man to help you now . . . Will you give me twenty-four hours to get him here, before you continue with your experiments?"

Again Rossi shrugged. "Apparently I do not have much choice, Brigadier," he said distantly. Then without another word, he turned on his heels and stalked angrily from the laboratory.



The UNIT chief stood for a moment, frowning thoughtfully at the precious planet dust. Then squaring his shoulders he strode from the room.

He spoke a quick word to the armed guard standing in the corridor, then went into his own office.

It was sparsely furnished. Apart from a metal desk with a small switchboard and a swivel-chair, there was a filing cabinet. Above it was a television screen. It showed a constantly-changing vista of rocky slopes and desert.

He sat down and picked up the telephone. Pressing a switch on the board in front of him, he said crisply: "Get me London Headquarters – Red Line."

A moment later he was talking to his opposite number in the capital. "I want you to get hold of Dr. Who, and fly him to Black Peak at once. It's very urgent."

After he had put down the phone, he felt suddenly weary. He bowed his aching head in his hands for a few moments and closed his eyes. And in this way he failed to detect something suspicious on the telescan screen.

It was a quick movement among the sun-parched slopes of the peak – so quick that both of the two guards among the rocks failed to notice it . . .

Dan, at that moment, was checking his watch, and stifling a yawn. "Roll on sunset," he said. "I'm getting bored stiff —"

He broke off with a startled gasp, and began to lunge to his feet as part of the rocks behind him became detached and took on the shape of a man clad in camouflage clothing.

"Look out!" he began to yell, swinging up his rifle.

But the figure had already launched a well-aimed blow. It took Dan full on the base of the neck, below his helmet, and he pitched head-first down the mountain . . .

The same fate befell the other UNIT guard, as a second camouflaged intruder materialized from the rocks and dealt a swift death-blow . . .

The desert sun was slanting down in the sky as the UNIT plane from London, a twin-engined Beechcraft, floated down from the sultry sky and hummed to a standstill on the runway built below the Black Peak.

A UNIT captain jumped from the plane, and reached up a hand to help Dr. Who to the ground.

The Doctor disdained such help. "Quite enjoyed that trip," he said, vaulting into the hot sand. "Makes a change from the travelling through time and space I used to do."

The Captain stared at his passenger. Must be batty, he said to himself. Never know what he's going to say next. What was it he was babbling about when we first found him unconscious outside that telephone box? Oh yes, about his new appearance. His new face! . . . Batty! . . . Still, he must be mighty important for the Brigadier to want him here so urgently.

The Captain led the way up the slopes to the secret entrance of the underground UNIT complex. He found himself gasping in the close atmosphere, and perspiration ran down from under his uniform cap.

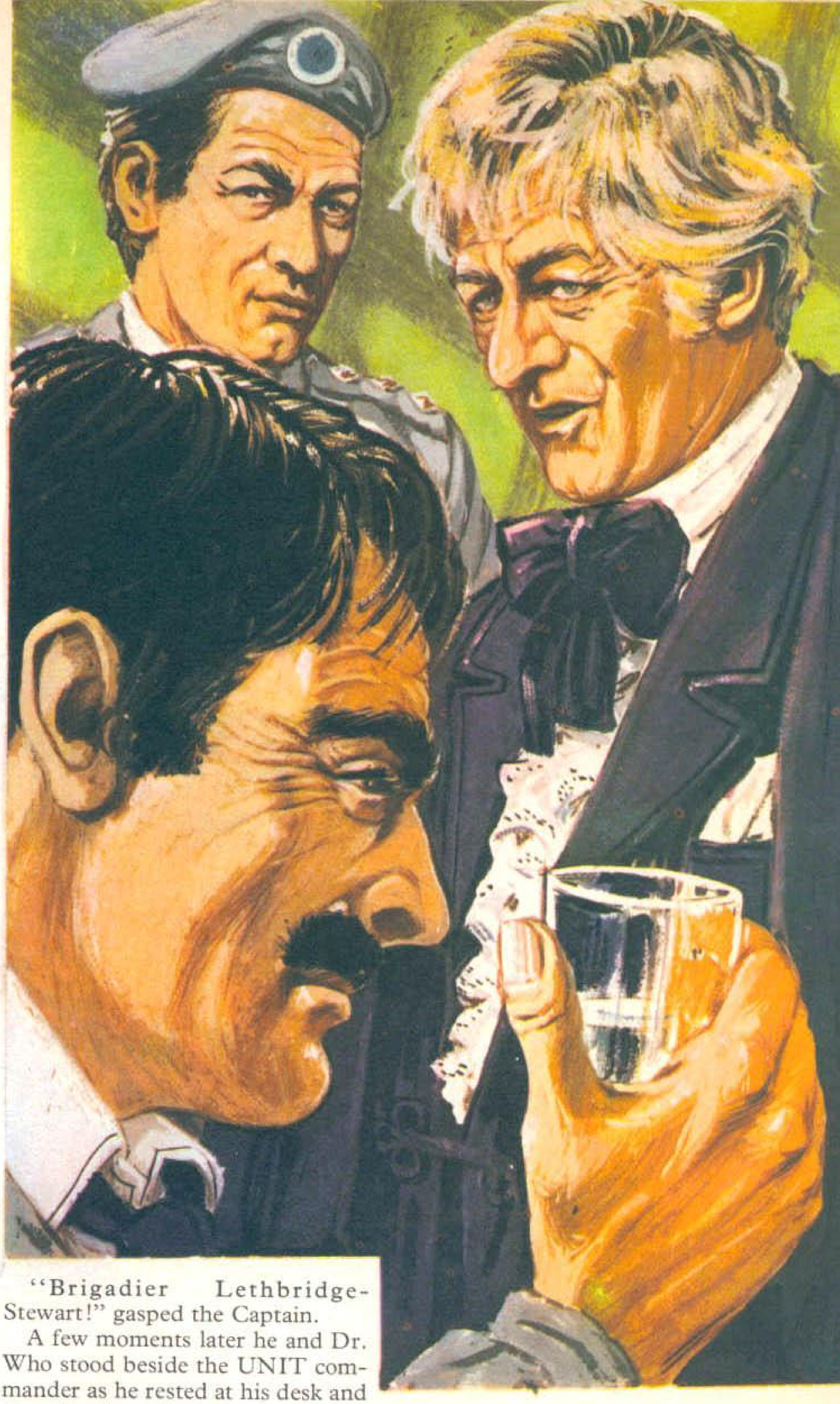
Yet as he glanced at his companion he saw that the dandified Doctor seemed oblivious to the intense heat. Not a trace of perspiration showed on his face, and his black cravat and lace-fronted shirt were crisp and immaculate.

Suddenly Dr. Who halted and pointed. "There's something wrong, Captain," he warned. "Your guards have been attacked."

The Captain whirled. He ran towards the crumpled bodies of the two guards lying amid the rocks. A quick glance showed him he could do nothing for the luckless men. He rose quickly to his feet and turned to speak to Dr. Who.

But the Doctor was not there.

Loosening the gun in his holster, the Captain ran towards the entrance of the underground complex. He stepped over the body of another guard and ran on down a sloping passage. Ahead of him he saw Dr. Who striding along. The Captain was about to shout when he saw that the scientist was hurrying to the aid of a uniformed figure staggering towards them.



"Brigadier Lethbridge-Stewart!" gasped the Captain.

A few moments later he and Dr. Who stood beside the UNIT commander as he rested at his desk and sipped a glass of water.

"They slipped through our security arrangements to get at Dr. Rossi," said the Brigadier weakly. "They've taken him away – *and* the planet dust he was studying."

"Have you any idea who 'they' are?" asked Dr. Who.

"Yes." The Brigadier nodded grimly. "But I have no idea *where* they might have taken Rossi. They're obviously going to make him continue his studies of the planet-dust. And from what I observed myself, that could be disastrous for world peace."

"What do you mean, sir?" queried the Captain.

The Brigadier took another sip and, choosing his words carefully, he described the reaction of the planet dust to the ultra-violet rays.

As he finished, he saw a look of concern in the Doctor's eyes. "There is no time to lose, gentlemen," Dr. Who said briskly. "I know the planet concerned. And I know its inhabitants. They will stop at nothing . . . Come!"

He reached the door in two long strides, when Lethbridge-Stewart's voice halted him: "Where are you going, Doctor?"

"Back to my laboratory. I think my vibro bank may contain a record of that dust reaction. If so, I can locate the samples."

The Captain was staring open-mouthed at these remarks. What was the old fool on about now, he wondered? What on earth was a vibro bank?

The Brigadier was rising to his feet. He reached for his uniform cap. "I'm coming with you, Doctor, if you will permit it," he said.

Dr. Who nodded agreement. "You are fit enough?" he asked.

"I'll rest on the flight back to England," the soldier assured him, buckling on his belt. "Come – there's no time to lose, Captain."

Liz Shaw was working in the Doctor's laboratory. She leaned over a microscope, her white-overalled figure hunched in an attitude of concentration. The slide she was studying could, she knew, hold a vital clue to help the British section of the United Nations Intelligence Taskforce in its grim struggle against the Autons.

The sound of a car approaching intruded on Liz's study. She looked up impatiently.

Then, as she recognised the unusual note of the car's engine, she jumped from her stool and ran to look from the window.

Drawing up outside was Dr. Who's canary yellow Edwardian roadster. A few seconds later the scientist swept into the room, his cloak billowing behind.

"And where've you been, Doctor?" Liz spoke a little coldly, for he had left without telling her where he was going.

Dr. Who told her in a few words, as he hung up his scarlet-lined cloak.

But Liz still felt a bit peeved. "I thought it was vital that we try and make something of this clue to the Autons," she said.

The scientist was striding to a corner of his laboratory. He kept some of his more complex and secret machines in a locked cupboard. "The Autons can wait for a while," he said shortly.

Liz knew the urgency in his voice. She forgot her annoyance and moved over to help. "I wish to check a reaction of planet-dust with my vibro bank," he said. "Help me lift it down."

Carefully they placed the Doctor's strange machine on the workbench. With all her brilliance as a scientist, Liz could feel nothing but awe whenever she was privileged to see the simplicity of the Doctor's machines. She knew their purpose was far beyond the reach of the advanced training she had received and from which she had graduated with such distinction.

She was watching him making some delicate adjustments, when Brigadier Lethbridge-Stewart walked in.

"Ah, good evening Miss Shaw," he said.

Dr. Who looked up impatiently. "You have a sample of the planet-dust, Brigadier?"

He nodded, and handed the scientist a box in which lay a test-tube containing the merest trace of the dust. "It's all I could get," he explained. "And I had to move heaven and earth to borrow it from the Scientific Powers-That-Be."

Dr. Who was already shaking the dust trace onto a glass tray in his machine. He bent over his vibro mechanism, and his fingers moved expertly over the controls . . .

There came a faint high-pitched singing noise.

Lethbridge-Stewart recognised it at once. "That's it!" he blurted. "That's the noise Rossi and I heard when he put it under the violet rays."

The Doctor motioned his companions away. He bent closer over his vibro bank. Suddenly the noise died away as he switched off.

There was a grim look on his face as he turned away. "I was right," he murmured.

"What is it, Doctor?" asked Liz.

"The dust comes from the planet Sequiz. It is very dangerous," said the scientist. He strode past them and reached down his cloak. "Come. I have been able to plot the whereabouts of the sample that vanished from Black Peak . . . Brigadier Lethbridge-Stewart, you can arrange a military plane to take us north – far north?"

The commander nodded. "Of course."

"May I come?" asked Liz anxiously.

The Doctor flashed a winning smile at his assistant. "I'm afraid not. This mission is liable to be dangerous," he explained. "And you are much too valuable to me . . . Shall we go, Brigadier?"

Snow sprayed from the skis beneath the UNIT plane as it touched down in a wilderness of frozen whiteness.

A few moments later Brigadier Lethbridge-Stewart and the Captain, warmly-clad in fur-lined parkas and huge furry mittens, were standing in the snow and watching Dr. Who.

He had declined the Arctic clothing. Apart from wrapping his cloak a little closer around him, he showed no sign of feeling the cold. He was making a quick check of his bearings from a tiny compass-like instrument which he had taken from his pocket.

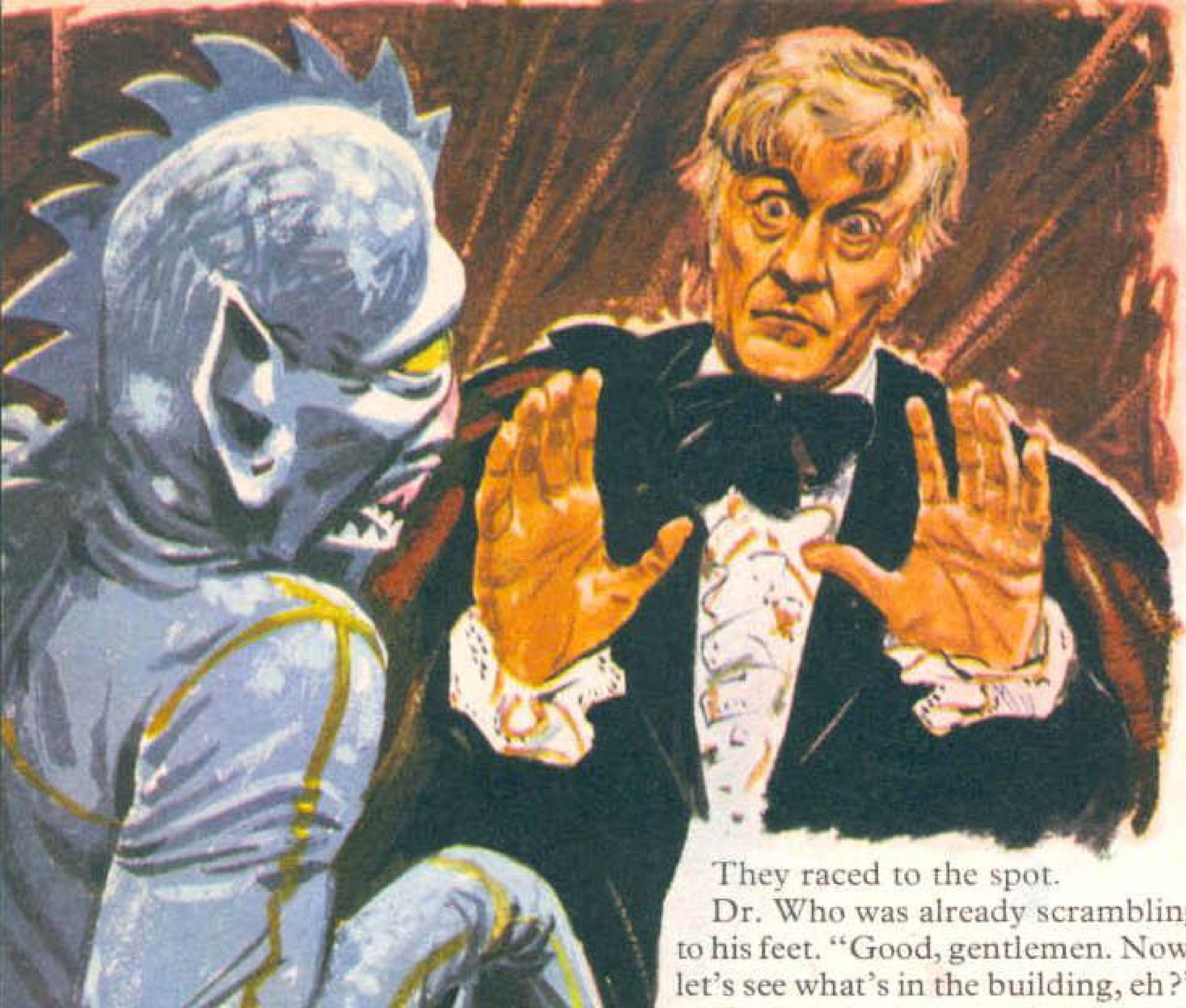
At last he nodded. "This way, gentlemen," he said. "I fancy we'll find a building of some kind."

They followed him, sinking deep in the thick snow. It was a grim fight to reach the building. They could see its roof protruding from a bank of snow.

Suddenly Dr. Who held up his hand. "I see their guards," he whispered. "They are wearing white snow-camouflage."

"Then we must deploy, and hope that one of us can win past them," said the Brigadier.

Dr. Who shook his head. "That



would take too long," he said. "I have a better idea. You two lie in wait. I'll go on alone, and draw the guards towards me."

Stewart knew better than to argue. Crouching in readiness, he watched the scientist stumble towards the hut. In another moment a shot rang out.

The Doctor staggered and went down.

The Captain would have leaped to his feet but for the Brigadier's restraining hand. "Don't worry. They can't harm him," he hissed.

Then, as the officers watched, four guards in snow-suits materialised. Lethbridge-Stewart noticed the Asiatic slant of their eyes, and the high cheekbones, as he levelled his gun.

"No mistakes, Captain," he murmured.

Their four shots rang out with startling clarity in the frozen air. The guards crumpled.

"Come on!" rapped the Brigadier.

They raced to the spot.

Dr. Who was already scrambling to his feet. "Good, gentlemen. Now, let's see what's in the building, eh?"

He led the way to the door. It appeared to be security-locked, and yet as the scientist laid his cane on the lock the door yielded and opened.

They hurried inside. Another guard came at them from a side room, but Dr. Who knocked the gun from his hands and felled him with his cane.

Stewart had run ahead. He was staring through the glass panel in a door. Then he turned and waved to the others urgently.

"It's Dr. Rossi . . . And he's repeating the experiment with the planet-dust," he said.

Dr. Who looked inside the room. It was a well-equipped laboratory. The white-coated figure of Dr. Rossi was bending over the ultra-violet ray machine, directing its beams upon the dust.

"The fool!" The exclamation was jerked from Dr. Who. "He doesn't know the dangers . . ."

He put his shoulder to the door and burst into the laboratory. "Dr. Rossi – don't do it!" he yelled. "That's Sequiz dust . . . You are playing into their hands!"

The other scientist whirled. His eyes glittered at the sight of the Brigadier. "Oh no! You're not going to stop me this time, Brigadier," he rasped. "I was kidnapped, yes. But these people have given me all the facilities I need, and they have *not* tried to interfere. You can go away and take your Dr. Who with you!"

He turned and twisted the ray machine to full power. Immediately the dust began to vibrate violently, then to rise. The high-pitched singing noise began, and grew to an intolerable volume.

"Get down!" yelled Dr. Who to his companions.

They crouched away against the wall, covering their ears to keep out the knife-edged noise.

Rossi was not so fortunate, being close to the dust. He tried to stop his ears. Then he began to scream madly, and suddenly he crumpled to the floor.

The dust was no longer mere dust. It had already begun to assume a shape – a shape so grotesque and inhuman that the two UNIT officers felt their nerves jingle and stomachs quake.

Like some malevolent ghost, the Apparition hovered over the unconscious Rossi.

Dr. Who steeled himself for battle, realising the Sequiz intention. "No you don't!" he rapped, and lunged across the laboratory, wielding his cane.

For a moment the Doctor and the Shape seemed to be locked in a deadly struggle. Then came a dazzling flash that robbed the watchers of their vision for a few moments.

Rubbing their eyes, they stood upright, realising that the singing-noise had stopped. Then they hurried to where the Doctor was leaning weakly against the bench.

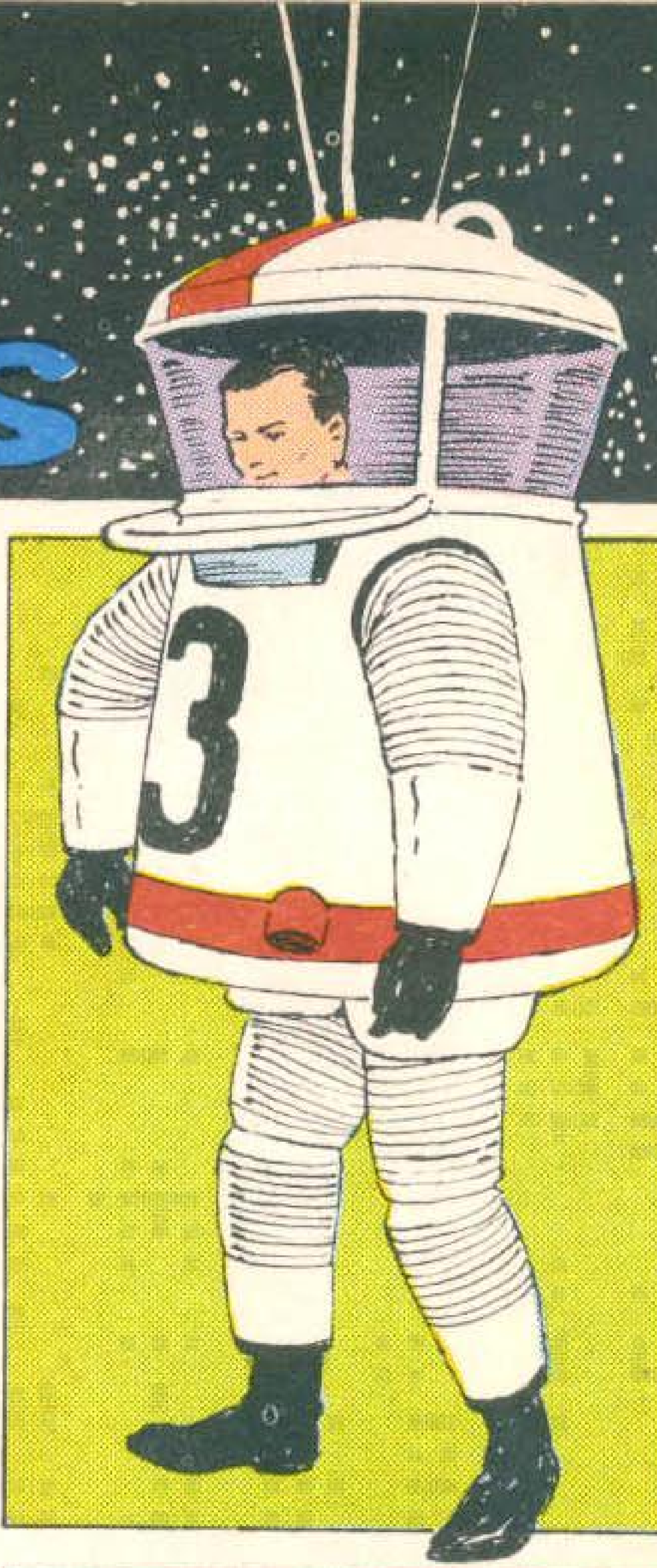
"Are you all right?" asked the Brigadier.

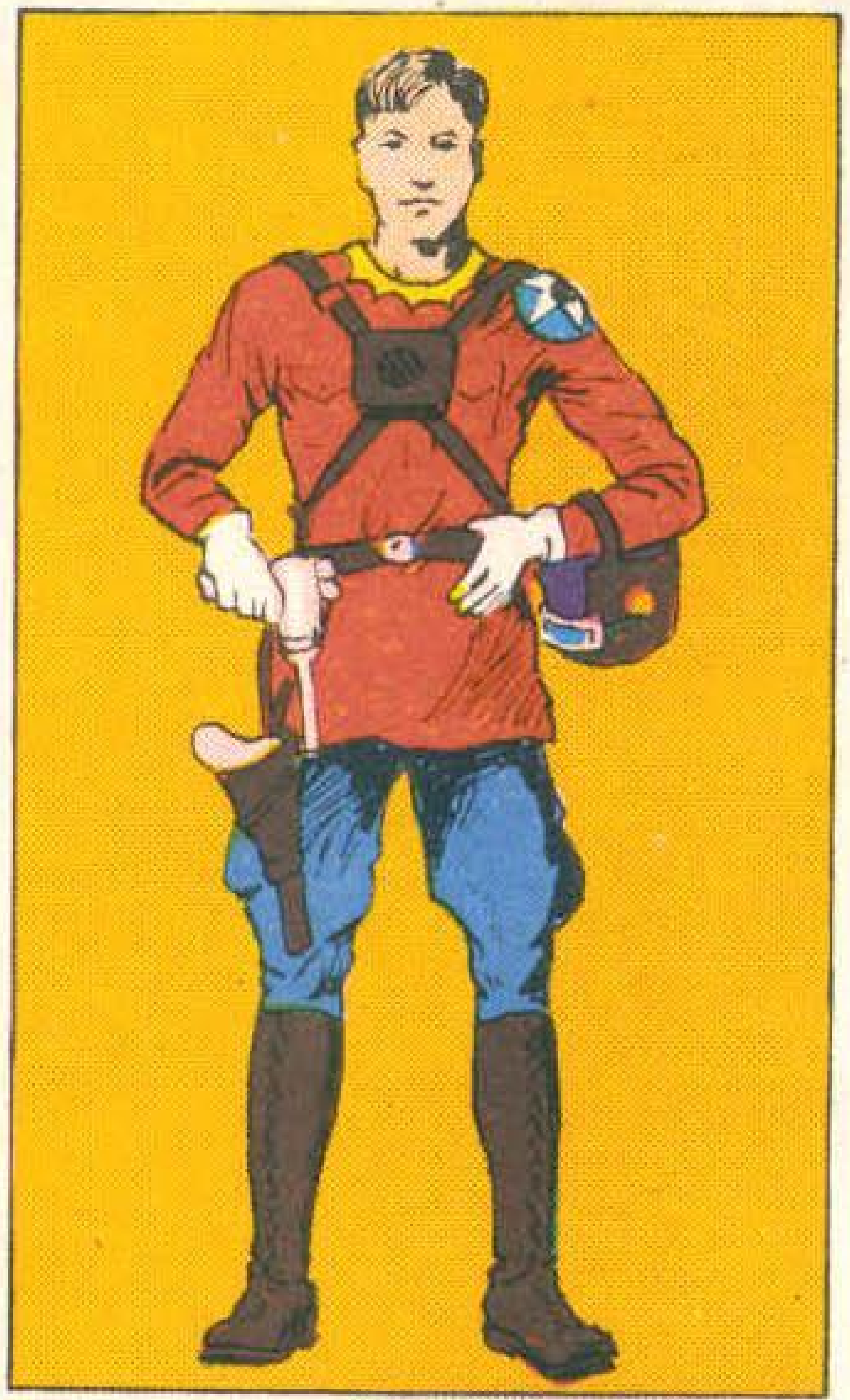
Dr. Who nodded. "I'm a bit winded – that's all. Is Rossi all right?"

"Yes," replied the Captain, who had been bending over the unconscious scientist. He glanced up at Dr. Who. "You saved his life, sir . . . What was that – that Thing? And where did it go?"

Dr. Who shrugged. "It has gone back to the Planet Sequiz. But as to what it was – well, Captain, even a hardened time-space traveller like myself meets mysteries he would like to forget – and *that* is one of them . . ."

TRENDS IN SPACE SUITS



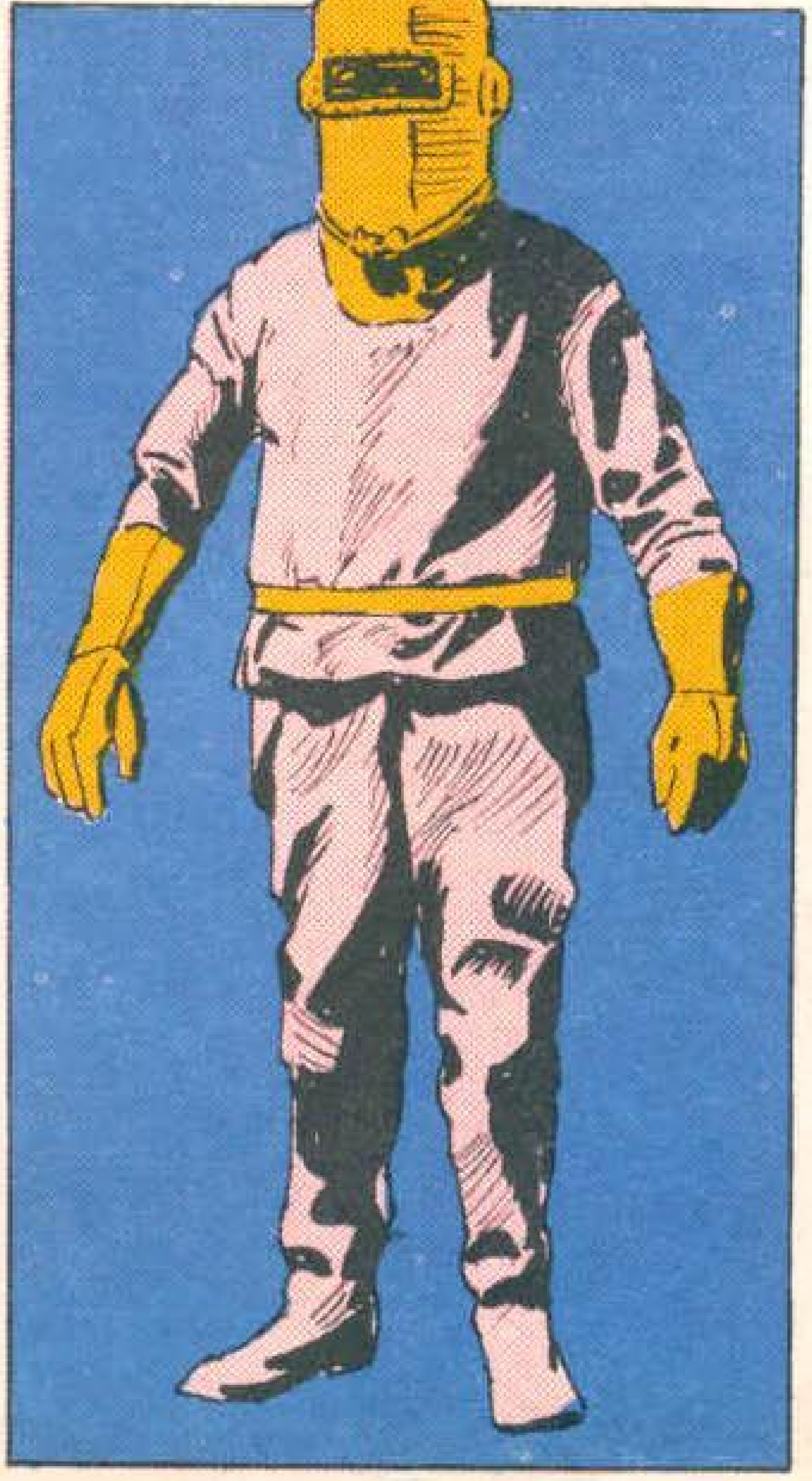


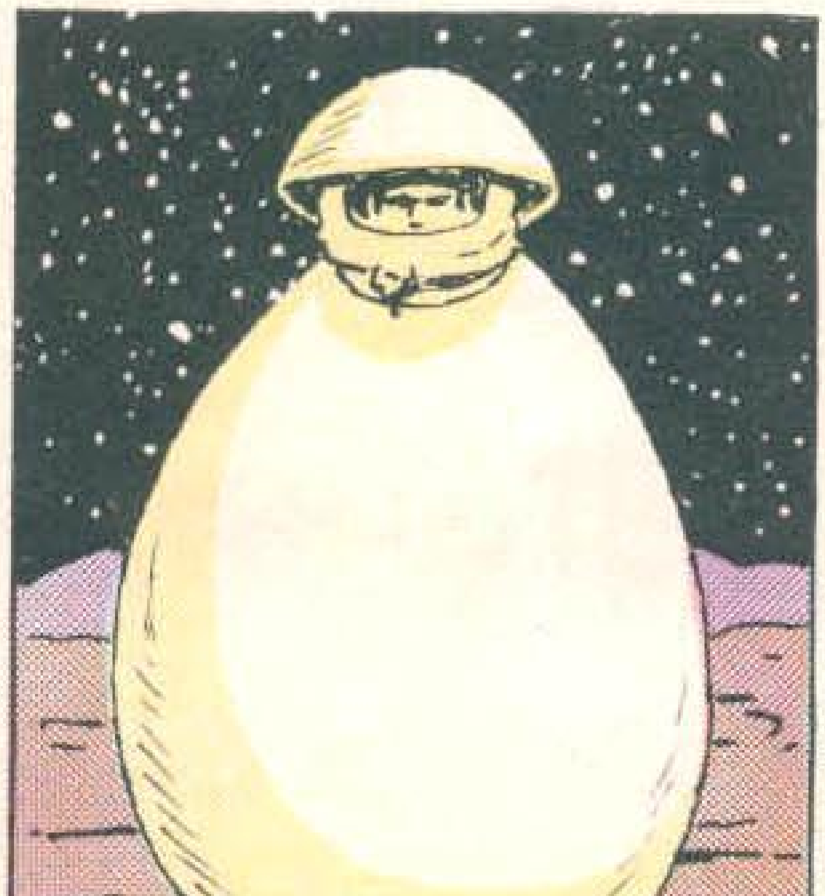
Man has long dreamed of exploring the surface of the Moon, and over the years he has designed space-wear which was far from practical.

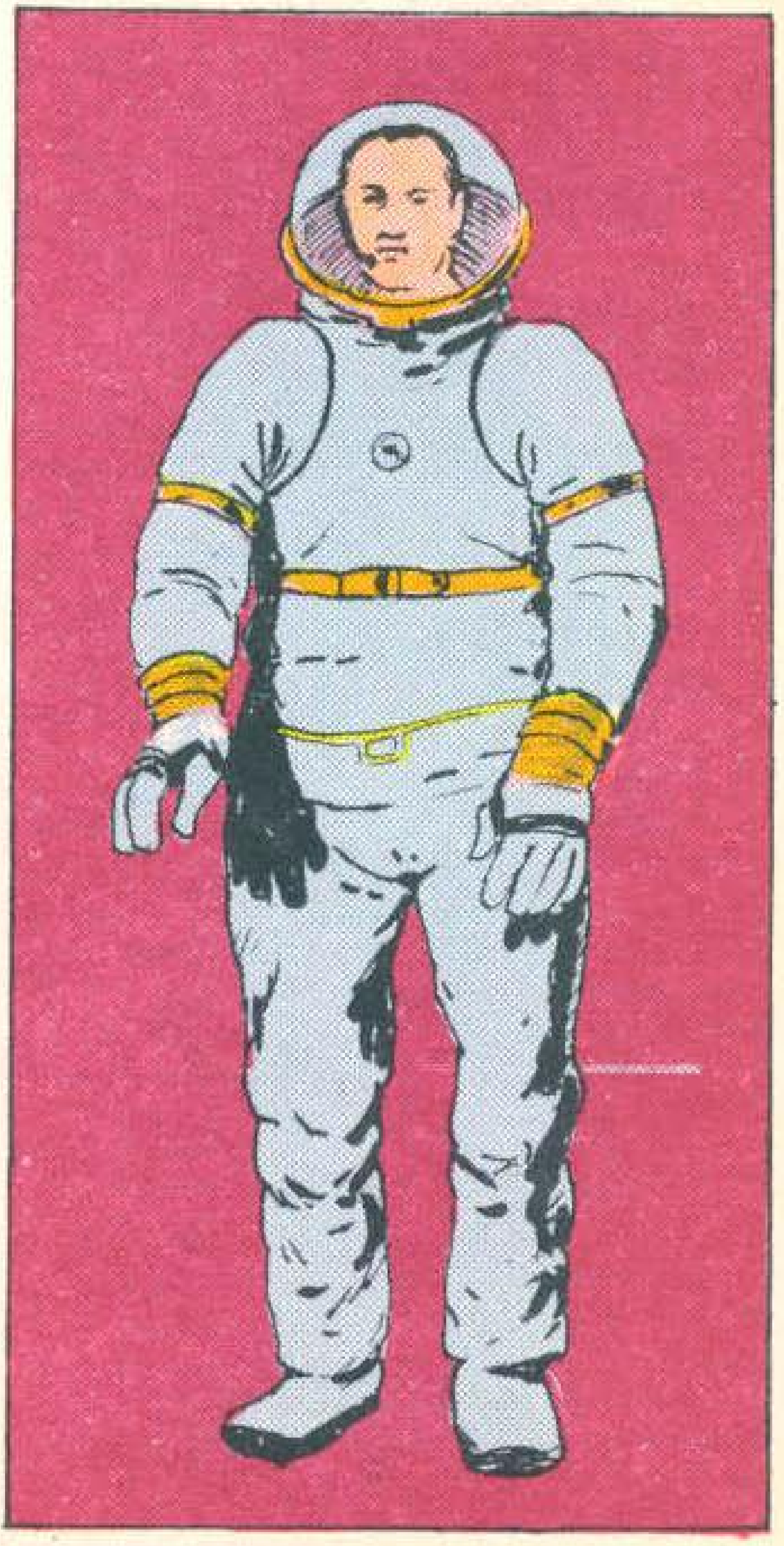
Buck Rogers, a comic hero of the thirties, wore an outfit which would have ensured his immediate death if he ever did land on a planet. But a suit designed by Wily Post in 1934 really did the job for which it was planned. It was meant to protect the wearer in a record-breaking attempt on the altitude record.

The two modern space suits are today's equivalent of the Buck Roger's outfit. Tough, functional . . . and tested. The Apollo flights have proved that one suit works perfectly. The more ungainly 'cage' suit could be used for long stays on the Moon.

The egg around the spaceman is a glorified shield. This shape has been suggested to ward off cosmic rays, solar particles, heat, and other harmful space materials.







FLIGHT from DANGER

Dr Who has had many adventures, but none quite so hazardous as this. The Time Lords have set a Searcher, a mechanical tracker, on his scent, and the Doctor must reach safety before it catches up with him, or he will have cause to regret it.

To Play

Each player uses a coloured counter. Throw a six to start and move along the path according to the numbers thrown. Follow the instructions given on certain squares.

The winner is the first player to reach the safety of the river, where the Searcher will lose the scent.

START
1
2
TIME WARP TRAP. MISS 2 TURNS.
4
5
6
7
SHORT CUT. JUMP TO 25.
9
10
11
12
AVOID LASER BEAM. JUMP TO 19.
14
15
16
17
18
19
20
THORN FOREST. BACK TO 9.
22
23
24
25
26
27
28
29
LOG OVER CHASM. JUMP TO 38
31
32
33
34
35
36
BLAST WAY. TO 46.
38
39
40
41
42
43
44
ATTACKED BY ALIEN MONSTER GO BACK TO 20.
46
47
FORCE FIELD. MISS TWO TURNS.
GO ANY WAY
49
49
DESERT. MISS A TURN.
AVALANCHE. GO BACK TO 29.
51
51
FINISH

Star Facts

The Milky Way is a gigantic collection of stars and planets whose exact number will probably never be known – about thirty thousand million. This enormous galaxy has a radius of fifty thousand light-years and a thickness of fifteen to twenty thousand light-years. The stars in the disc rotate about the centre, those near the outer rim taking roughly 300 million years to make one revolution.

After the sun, the star nearest to Earth is the Alpha of the Centaur. It is 26 billion miles away and its light takes 4½ years to reach us.

Mercury receives ten times as much sunlight as Earth. As it travels round the sun, it keeps almost exactly the same side toward it. On this side temperatures rise to roughly 770 degrees – hot enough to melt lead. There is no atmosphere on the planet to carry the heat round to the dark side, and this side may remain as cold as 460 degrees below zero.

Because they are only ten miles thick, Saturn's rings are transparent. The nearest one is seven thousand miles from the planet and is very thin. It is separated by a black band from the next one, which is wide and bright. The combined width of the rings and the distance between them is forty thousand miles.

The Solar System began perhaps five billion years ago as a giant cloud of gas and dust in space. Slowly, gas and dust particles were drawn together by gravity. Swirls formed and became hot from pressure and friction. The biggest became the Sun; others became planets and smaller members of the Solar System.

It has been calculated that the exposed land-mass of the Earth receives only one giant meteorite every million years; however, a photographic survey made by the Royal Canadian Air Force has revealed that there are more than ten meteorite craters measuring over 1,000 yards in diameter on Canadian territory alone.

The planet Jupiter fills a volume over 1,300 times that of the earth. It has a mass more than twice that of all the other eight planets put together, and its stupendous atmosphere, which is hundreds of miles deep, is held by gravity 2.5 times the earth's. Despite its tremendous size and mass, however, Jupiter has a low density – only a quarter of the earth's.

INVADERS INVISIBLE

THE silver moon was shining down on the sea as Doctor Who drove along the cliff-top road towards the UNIT installation. The waters below were silvered by the moon's rays, but there was something else down there besides moonbeams. He stopped the big yellow car and got out.

The shimmering circle, which had seemed to be merely part of the general pattern of moonlight, now detached itself and went up! Very, very fast it went up, and its shadow crossed the moon and then vanished. So it had been solid enough. He looked out over the water but it remained tranquilly still, a vast expanse of silvery magic.

Back in the yellow car he gave himself up to thought. What had he seen? Had he actually seen anything? If his own ideas were correct, most sightings of U.F.O.s were phoney, imaginary things seen by people with fevered imaginations.

He was first aware of the new phenomenon ten minutes later just as he was starting the car again. Like a black mound of mud, it came over the broken stone wall and surged down to the ground. Like a living thing, it stayed still for a moment, just like an animal recovering its breath after a long and arduous climb. Then it moved again and flowed – that was the word – closer to the road. And, to his dismay, closer to the car. Again he climbed out and went closer.

It looked like mud, but it had a sort of glitter deep inside it. Something seemed to be shining inside that mass. It was as shapeless as an ink-blot and, without thought of fear, he walked close to it.

He bent down and at once noticed something peculiar. His senses seemed to drowse suddenly, as though he was falling asleep. Abruptly he straightened and the sensation passed. Putting out a foot, he touched it. Something very like a faint electric shock ran through him.

Instantly he was awake and alert. He ran back to the car and returned with a scoop and a metal canister. Five minutes later he was back in the car with his find and speeding to his headquarters.

Brigadier Lethbridge-Stewart listened to him carefully and eyed him with puzzlement. This strange man whose adventures he had shared ever since the doctor had been attached to his command, the United Nations Intelligence Task Force, did certainly uncover the most unusual things.

"We'll go and have a look at this find of yours, Doctor," he said with a smile. "I suppose a car will do?

You don't insist on an armoured car, I hope?"

"An armoured car?" Doctor Who's eyes were thoughtful as he remembered the flying saucer he had seen. He grinned across at Liz Shaw and shook his head.

"At least not yet, Brigadier," he said with a puckish laugh. "I think a jeep will do fine. About half a dozen men and a large empty tank for the stuff, and shovels, of course. I brought a sample back. While we're out there, Liz, would you run a first analysis over it?"

"Looks just like mud to me, Doctor," Liz said. "I ran a geiger over it when you opened the box. The count was normal. I'll carry on from there."

The moon was a little higher when they reached the spot on the cliff-top. Doctor Who's eyes searched the road, but so far he could see nothing. He frowned.

"It was here!" he said petulantly. "Look, you can see a mark on the road. About six feet in diameter. Just like an ink-blot."

Lethbridge-Stewart looked annoyed. "I and my men have come out here at close to midnight, man, to see another of your mirages, I suppose. I suggest you find this ink-blot of yours at once or I shall return."

"It *was* here," protested Doctor Who angrily. "I saw it. I touched it with my foot. I took some of it back in that can. You've got to believe this."

"Well," said the UNIT Commander, "it certainly isn't here now. I must insist we abandon this now. If Miss Shaw has any information to give us, we will decide what to do then."

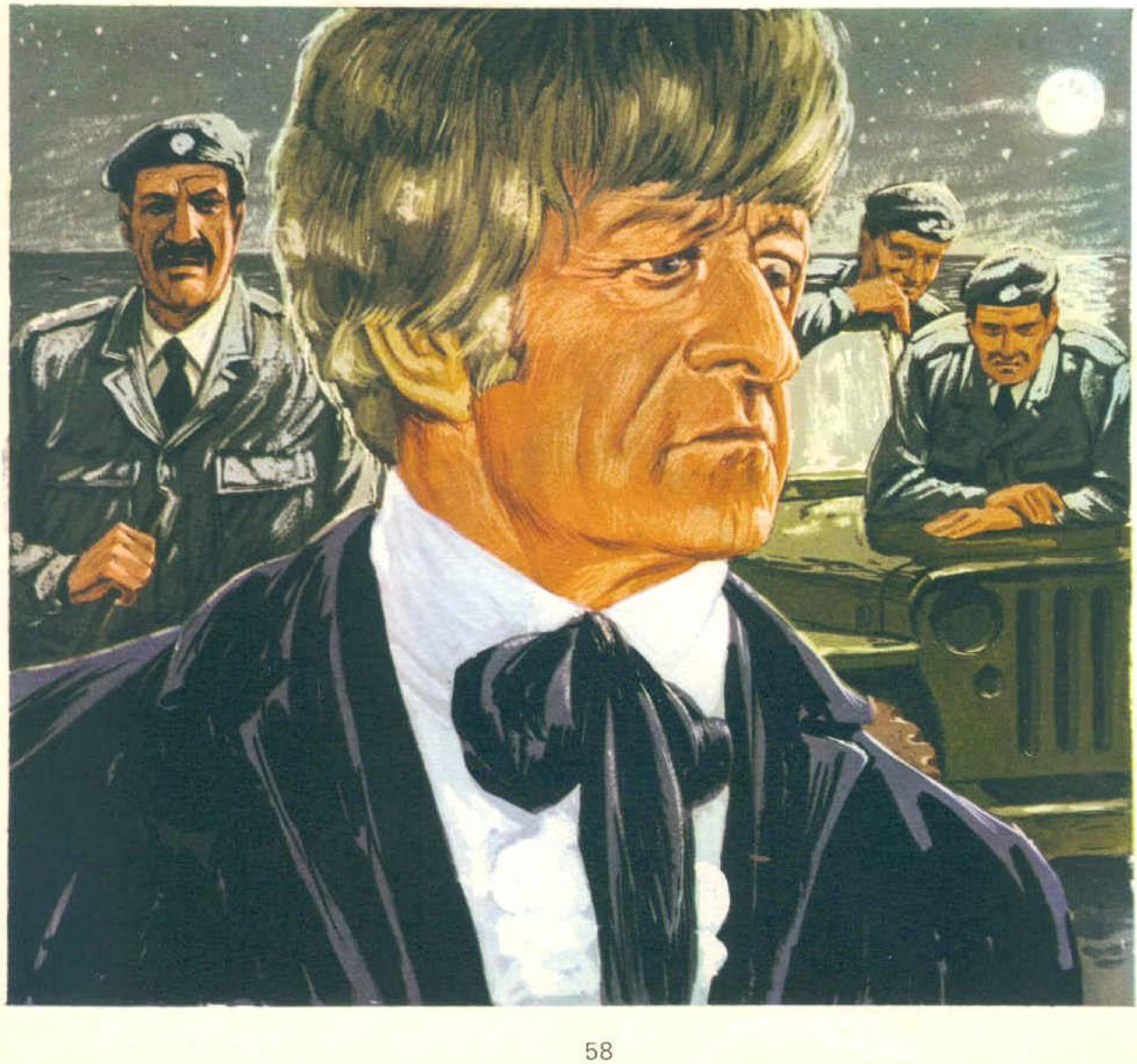
That night of surprises held maybe the greatest shock for them on their return.

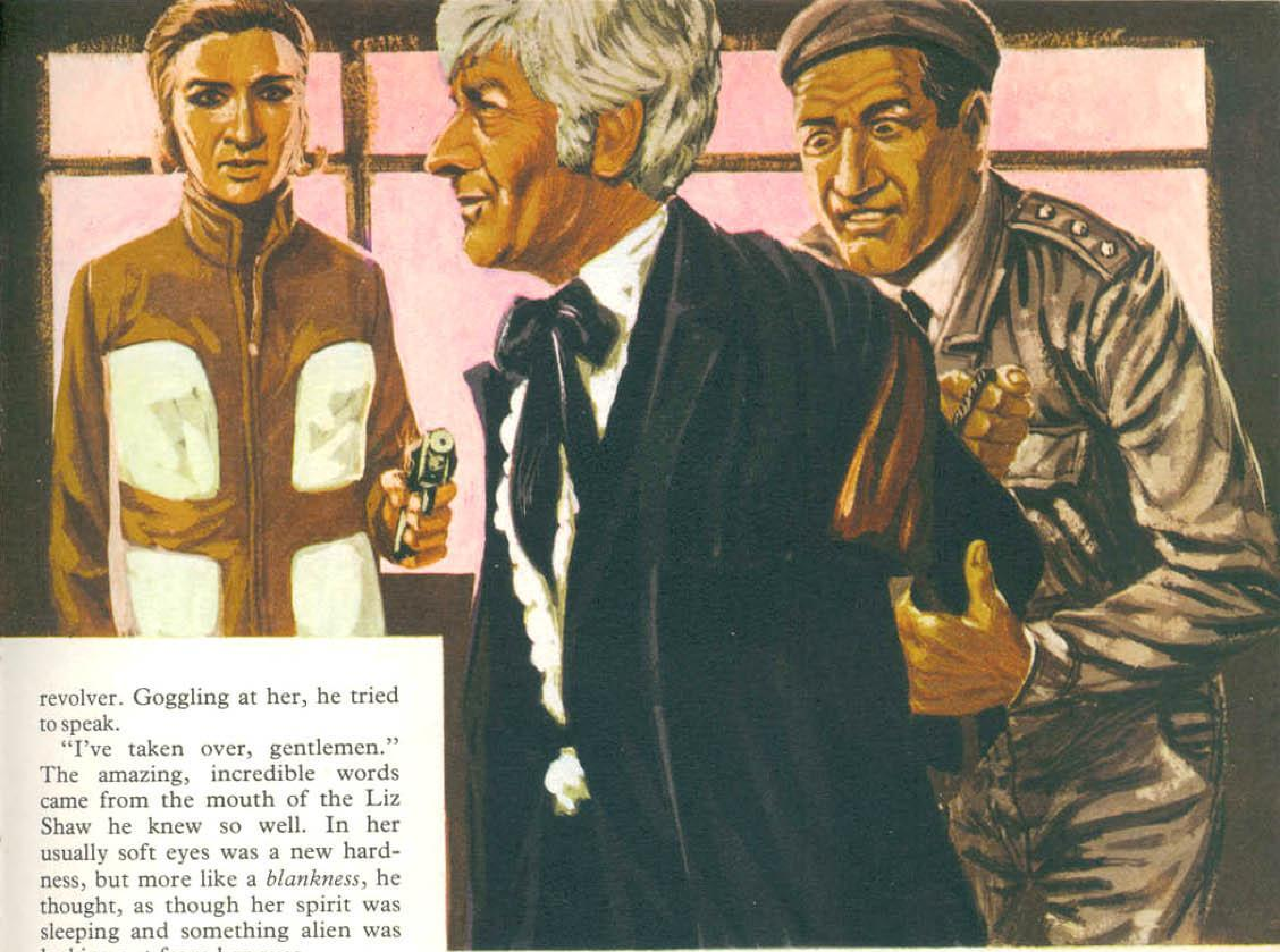
Liz was in the laboratory, bending over the bench. She did not look up when they entered and Doctor Who saw the specimen box in front of her.

"Well, Liz?"

The Brigadier came in after him and closed the door. He sat down wearily at his desk and looked over at the strange pair.

Doctor Who gaped stupidly as Liz turned and he found himself looking down the round barrel of a





revolver. Goggling at her, he tried to speak.

"I've taken over, gentlemen." The amazing, incredible words came from the mouth of the Liz Shaw he knew so well. In her usually soft eyes was a new hardness, but more like a *blankness*, he thought, as though her spirit was sleeping and something alien was looking out from her eyes.

"Liz," he croaked. "What's come over you? What on earth is this charade?"

"Captain Harvey," said Liz coldly, and she turned to the duty officer at the radio console. "Tie them up and lay them in that small room at the back. They will be treated later but they need gagging now. You and I have to go out in the jeep and bring in the host. It has hidden itself, but I will know where to look."

Stunned, Doctor Who saw the duty officer approach and start to tie him up. He did not struggle. There was that in the eyes of Liz which told him that this nightmare was very real and very menacing. Dully he watched the furious Brigadier, under the menace of the revolver, tied up by the captain. Then they were both gagged and put into a small back room.

Like zombies those two had been, like dead bodies walking and animated by alien inner forces. Aliens! That saucer! That ink-blot of mud on the road! What was it and where had it come from? His thoughts raged round his head.

Lethbridge-Stewart was wriggling by his side and the man's face was purple with fury. His rolling eyes told the doctor just what the man was thinking.

He could hear what went on in the laboratory as several hours passed. Then noises came again and the grunting of men as they brought in something large and unwieldy. The tank from the jeep! What would be in that tank now? Certain strange and impossible notions were running through Doctor Who's mind.

Then, to his surprise, he heard his name whispered softly by his fellow-prisoner. "Doctor," came the whisper, "I've got my hands loose. A technique I learned in Korea, of restricting the muscles at will, like the Indian fakirs. Now I'll let you loose and we'll break up this confounded mutiny."

The great Hale reflecting telescope on Palomar Mountain, in southern California, magnifies over 1,000 times and gathers 360,000 times as much light as the human eye.

“No, no, Brigadier,” the doctor protested when he was free and he saw the soldier grimly checking his service revolver. “This isn't any mutiny. This is an *invasion!*”

“Nonsense, man,” muttered the other. “My own captain, tying up his commanding officer. Harvey'll be shot for that. And your assistant . . . that girl . . .”

“Listen,” said the doctor urgently. “They don't *know* what they're doing. Believe me, this is no nightmare nor any mutiny either. We are faced with a menace here more deadly than anything I could ever have imagined. Most forms of life I've seen in my time . . . but . . . that slime from the sea . . .”

“Poppycock, man!” muttered the soldier testily. “What's that stuff got to do with us being attacked and overpowered? Besides, that stuff was a pure figment of your imagination. It never even existed!”

“I should guess that the whole mass of it is now here in this laboratory,” said Doctor Who coldly. “Probably inside that tank we brought back empty, but which Liz and your Captain Harvey have now brought back filled. That tank, my dear sir, contains something so unbelievably and so horribly deadly to all humanity that the mind cannot really grasp it.”

“My mind can't even imagine it,” growled Lethbridge-Stewart. “Then what do we do now? If you won't let me rush these mutineers, I'll have to get hold of the other officers and N.C.O.s and overpower these two.”

“The others, by heaven,” explained the doctor. “Listen, can you hear voices?”

They listened carefully and began to hear voices. It was the duty officer and he was talking to a sergeant. His words, uttered in a parade-ground tone, began to be heard.

“All personnel for immediate inoculation, sergeant,” the man was barking. “*All* men, mind you, on duty or off. Parade in five minutes, dressed or not.”

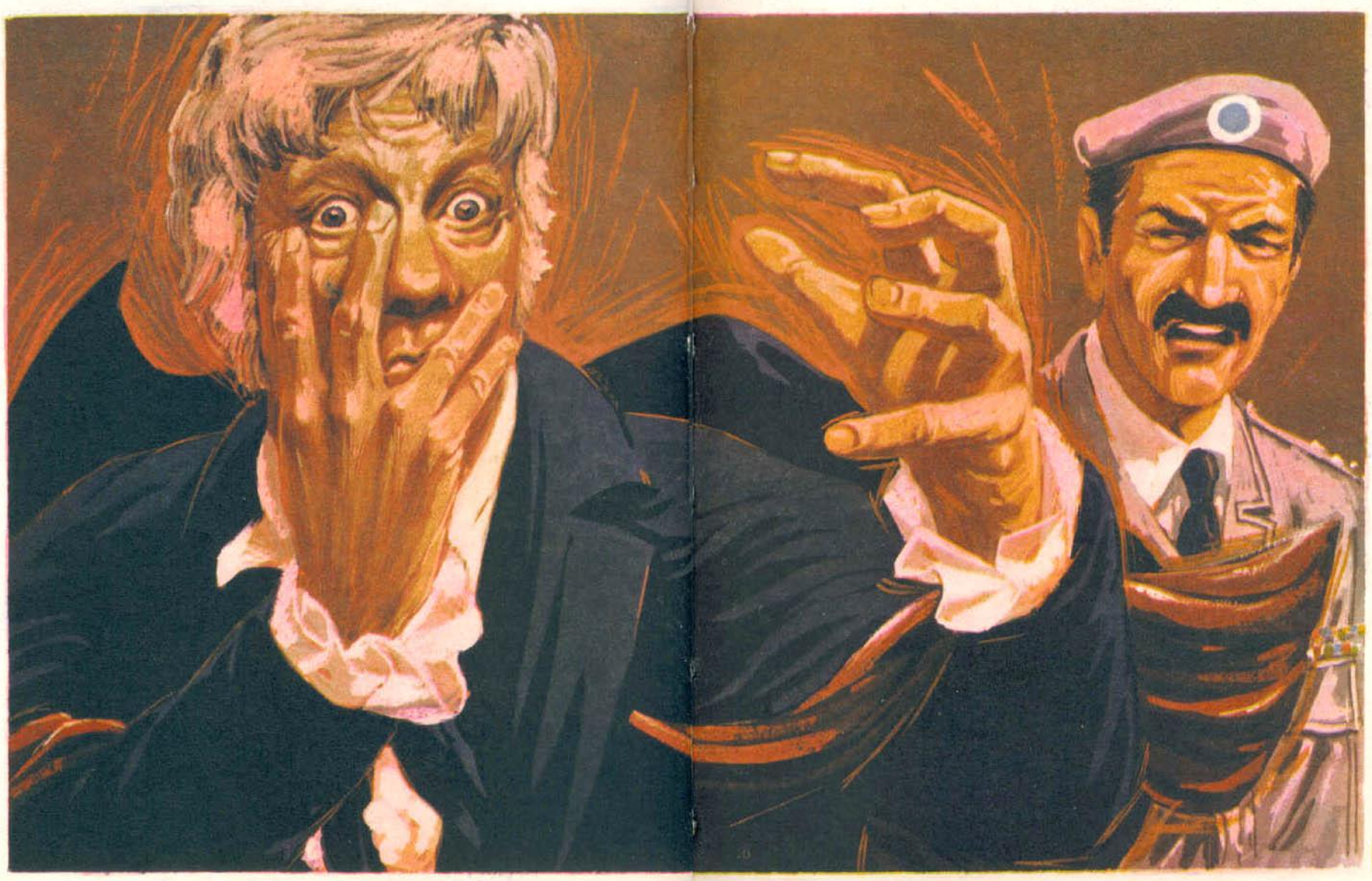
Doctor Who had his eye to the keyhole now and he saw a strange sight.

The large tank was on the lab floor and Liz was leaning over it. With his scoop in her hand she was ladling out portions of the stuff into bowls on the table. He watched her take a half-dozen syringes from the sterilising cabinet and start to fill them from the inky stuff.

He straightened. “Brigadier,” he hissed. “You were right. This *is* a mutiny! We have to stop those two. Now!”

It was the doctor himself who attacked Liz, while the Brigadier went for Harvey. Both were taken completely by surprise and, though it pained him, the doctor found the will to knock Liz out by a chop on the neck. As she fell he looked at his hand. It was smeared with the inky stuff and a new sensation swept over him. What had he done to this ally of his?

Lethbridge-Stewart had knocked the captain down and stood facing the outer door. His face set as he looked at the doctor and he turned his gun on him. There was in Doctor Who's eyes that same blankness he had seen in the eyes of the captain and Miss Shaw. He faced the doctor now, the gun firm in his hand, his mind in a whirl of indecision. He couldn't begin to believe that farrago of nonsense the doctor had tried to tell him. Yet there was something very terrible about this night's events, something as much outside his experience as black magic or witchcraft.



His finger itched on the trigger. This man, if he *was* mad, could endanger his whole force. The madness seemed to be spreading. First the girl and Harvey, and now the doctor. He felt his reason trembling. At any moment he himself might topple over the brink. And outside the door the officers, N.C.O.s and men, were parading for this . . . this inoculation with that filthy stuff in the tank.

Awestruck, he watched the struggle in the eyes of Doctor Who. It was as though two principles were at war in those eyes. At one moment the blackness would seem to prevail, then Doctor Who's expression would return, but with a new and pitifully hunted overtone.

The soldier could scarcely believe what he was seeing. Who was the enemy? Maybe, rather, *what* was the enemy? What was he fighting? He was not to know, but he was witnessing the struggle of all mankind against an alien invader. There, in the long, lanky form of Doctor Who with his cloak swinging round him, all mankind battled in a death-struggle against an unimaginable intelligence seeking to infiltrate a foothold on Earth for the ultimate subjugation of all the human species that he knew.

And, again without knowing it, he saw total victory. With the virus actually inside his body from the slime on his hand, the UNIT chief saw the doctor vanquish that incredible intruder. He watched fascinated as the expression in the man's eyes changed and he watched him totter to the sink, grope for a jar of disinfectant and plunge his hand into the wide-mouthed jar of liquid. A great shudder shook the doctor's frame as the slime slid from his flesh, flowed sluggishly to the bottom and stayed there, an inert blob of goo.

Then Doctor Who shook himself like a shaggy dog and turned to the soldier with a rueful grin. “There, that's out of my system,” he sighed. “My word, that was a strange battle. This . . .these . . . what should we call them?”

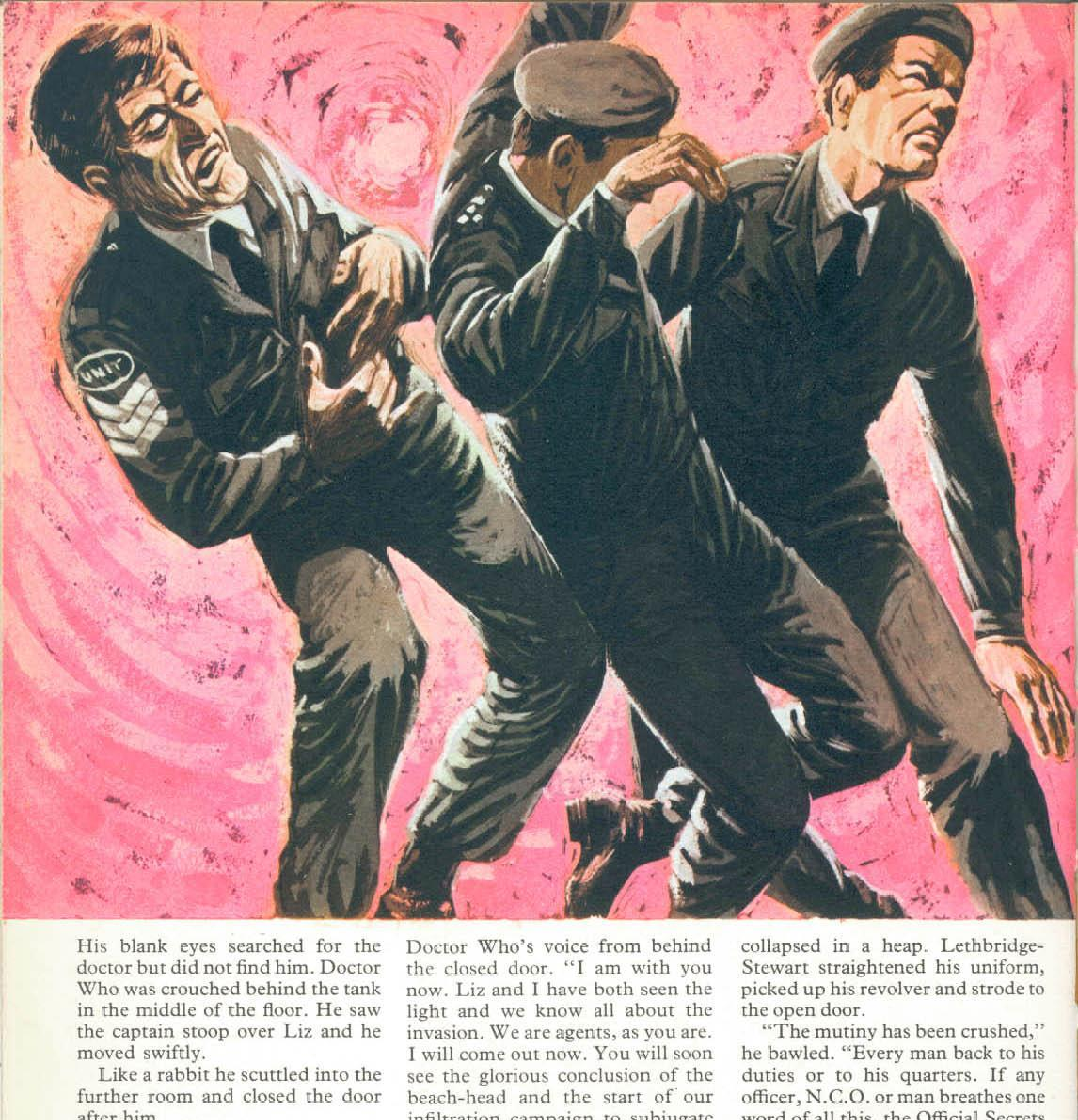
“Tell me,” snapped the Brigadier. “What on earth is going on? You seemed to be struggling, actually fighting, against yourself! In heaven's name—”

“Go to that door, Brigadier,” said the doctor tensely. “Tell the parade that the inoculation is cancelled. Your men should be used to abrupt changes of commands. Then you and I will deal with this . . . this thing. I don't know how to describe it . . . or them. Please get busy, man, there isn't a moment to lose. I'm going to kill this thing in the tank before any more of it gets loose. Look, man, the stuff's already trying to get to the top of the tank, even though it's standing still. The stuff is *alive*, man, it's living tissue.”

Like a man in a dream, Lethbridge-Stewart went to the door. There was a rustle from the files of men as they saw the pistol in his hand. Harvey had risen groggily from the floor and now he and the sergeant of the parade rushed straight at the Commanding Officer! Harvey snatched the gun from the nerveless hand of the Brigadier.

“Officers and other ranks,” bawled Harvey. “The Brigadier has gone insane! He will be taken into care and I have assumed command. Sergeant, see to the Brigadier and the inoculation parade will proceed, as ordered. Miss Shaw, are you ready for them?”

Lethbridge-Stewart fought like a tiger as the sergeant grappled with him. Harvey looked round for Liz and saw her lying on the floor.



His blank eyes searched for the doctor but did not find him. Doctor Who was crouched behind the tank in the middle of the floor. He saw the captain stoop over Liz and he moved swiftly.

Like a rabbit he scuttled into the further room and closed the door after him.

Harvey straightened up and faced the door.

The Brigadier, breathing fire and slaughter, was held by the sergeant while the file of men, filled with eager curiosity, peered inside at the amazing scene.

"Come out, Doctor," shouted Captain Harvey. "Come out and surrender. We are in command now."

"I know that, Captain," came Doctor Who's voice from behind the closed door. "I am with you now. Liz and I have both seen the light and we know all about the invasion. We are agents, as you are. I will come out now. You will soon see the glorious conclusion of the beach-head and the start of our infiltration campaign to subjugate this whole backward planet."

Harvey hesitated, but waited. He saw the door open and saw the doctor standing behind a complicated apparatus. It was merely an X-ray machine but the rays bathed his figure and he slumped to the floor, unconscious. Doctor Who wheeled the machine in further and its rays bathed the struggling figures of the Brigadier and the sergeant. The N.C.O.'s grip loosened and he collapsed in a heap. Lethbridge-Stewart straightened his uniform, picked up his revolver and strode to the open door.

"The mutiny has been crushed," he bawled. "Every man back to his duties or to his quarters. If any officer, N.C.O. or man breathes one word of all this, the Official Secrets Act will be invoked and that man will face a court-martial for treason. Parade dis . . . miss!" He wheeled round.

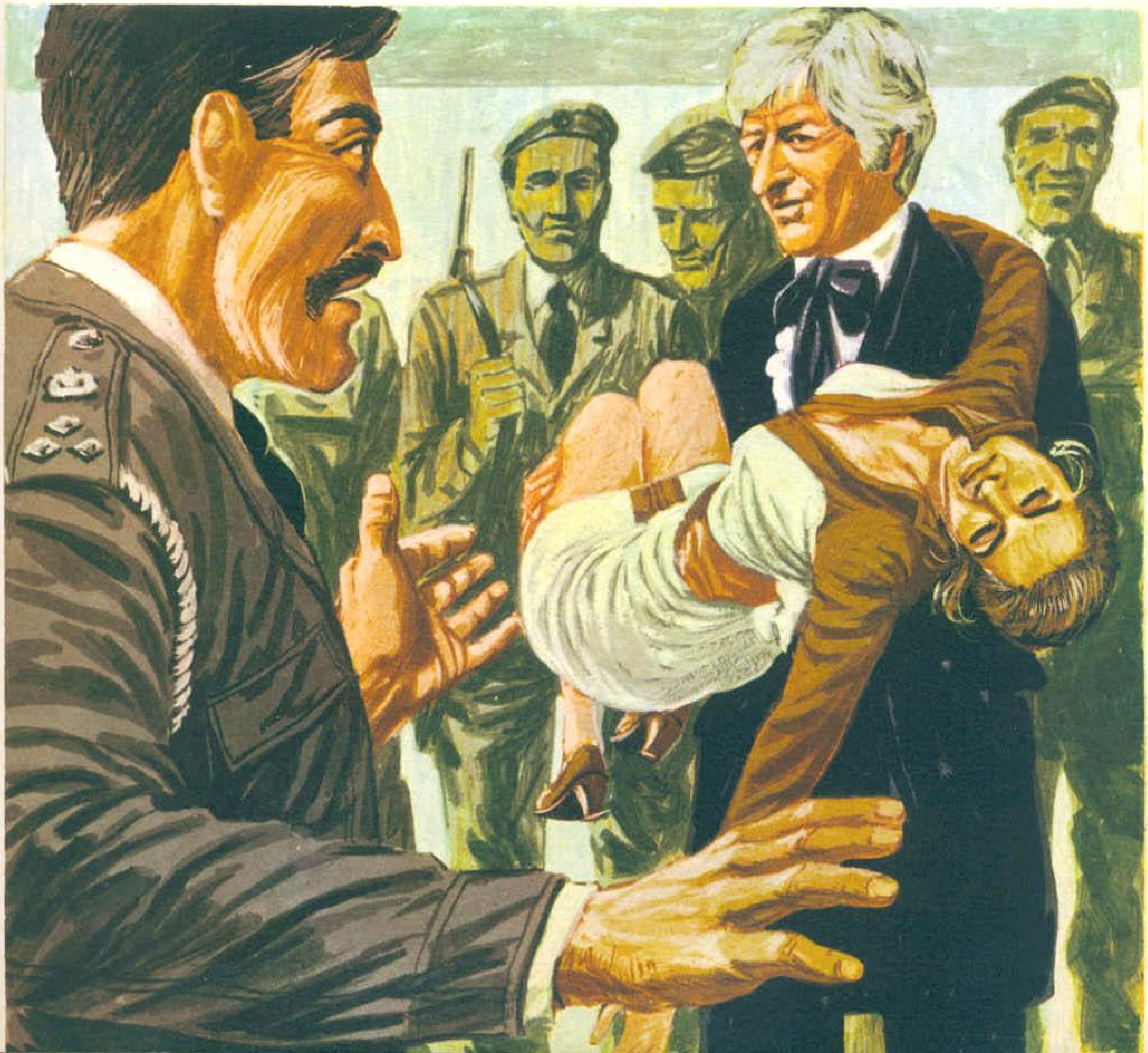
"And now, my dear Doctor Who," he said crisply. "If you will kindly explain all this to me, I shall be obliged. I can see no valid reason why you should be X-raying our Miss Shaw. She is perfectly harmless now."

"Yes, she is, isn't she?" said the

doctor as he stooped over her under the beam, and stared into her eyes. "All three of them, Harvey, Liz, and the Sergeant, will wake soon and they will never remember the horrible thing that happened to them. My word, Brigadier, it is indeed the most hideous sensation in life, to feel an alien inside your brain and mind and body, fighting to take you over, mind and soul. Pah! That slime in there, I got it when I hit Liz on the neck. The captain had a smear of it on *his* hand and he touched the sergeant with it. Ah, yes, that disinfectant. That dealt with the muck rather well. Let's collect all we can and make a hell-broth of this tank-full. You'd think it was full of eels the way it's writhing about."

"I suppose, as usual, you'll tell me about it when you're ready," sighed the Brigadier as he helped the doctor to pour the contents of carboys of disinfectant into the tank and watched the slime turn to lifeless, dull sludge.

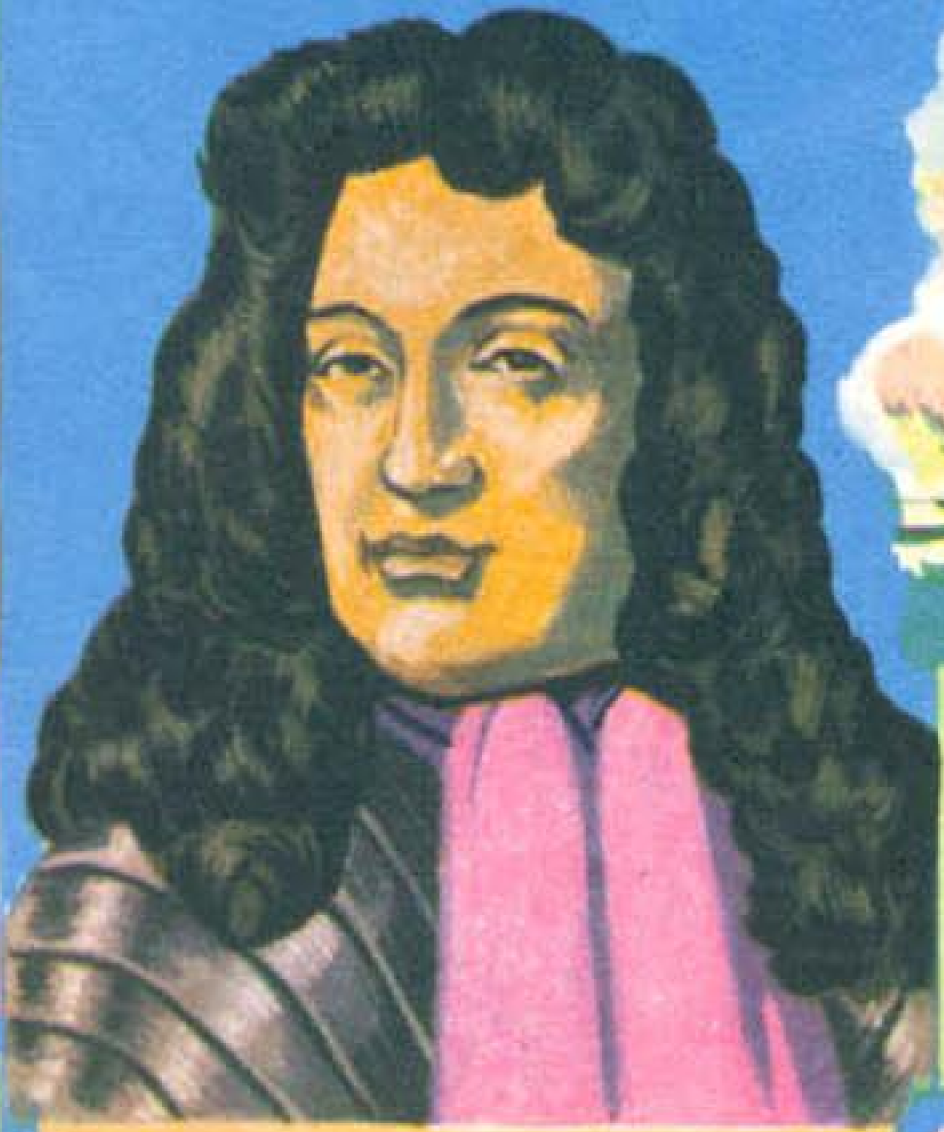
"There came a saucer from space," said the doctor thoughtfully. "We'll never know where it came from, the stars maybe, or even a distant galaxy. They were *colonising*, Brigadier, just seeding this planet with their own species. That sludge they dropped into the sea, to surge up on land in this beachhead of invasion, was composed of millions, no, myriads, of viruses, each capable of infiltrating a human being and taking complete control. It could be done by contact of flesh or by intravenous injection. In some way I got the idea, while I was a temporary victim, that while each virus was a separate entity, they all thought alike and were really separate cells in some unthinkable higher form of being, like the multiform intelligence of a hive, or an ant-hill. I learned of all this while I was fighting that thing back there. Liz had told me they were radioactively inert. I guessed that radiation was foreign to them. So I took a great chance, actually a desperate last throw, on trying the X-ray machine to kill their essence. It worked, thank a merciful providence. The Seeders will not come back. Their work is done. And we have scotched it and are still free human beings and not mindless zombies obeying the commands of an alien entity inside our own bloodstreams."

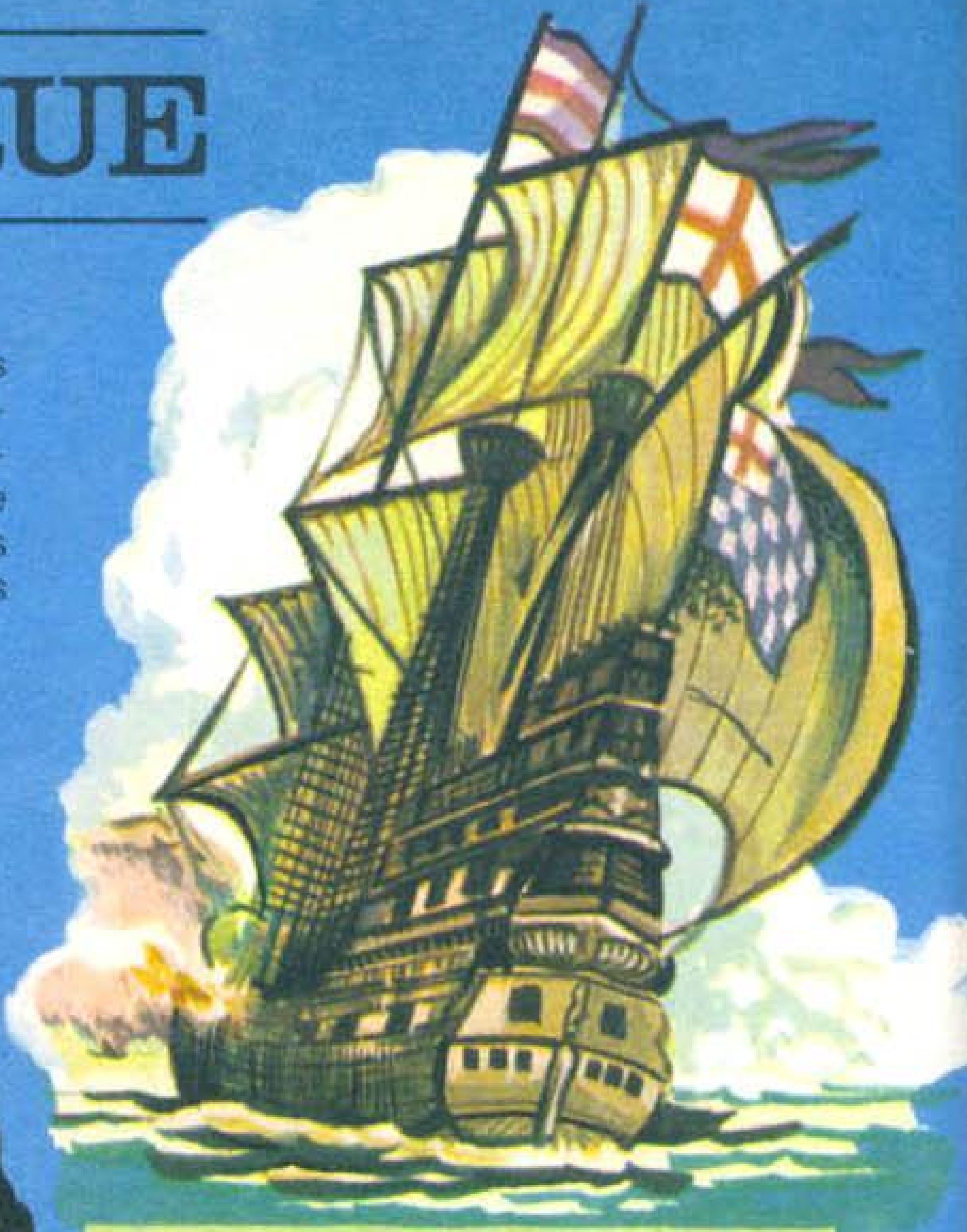


STRANGE BUT TRUE

The man who invented the pillar box is not famous for this. He is famous as the novelist Anthony Trollope.

King James II debased England's coinage by issuing such worthless coins as brass pennies, halfpennies and farthings. Soon the phase indicating worthlessness was in use; "Not worth a brass farthing".





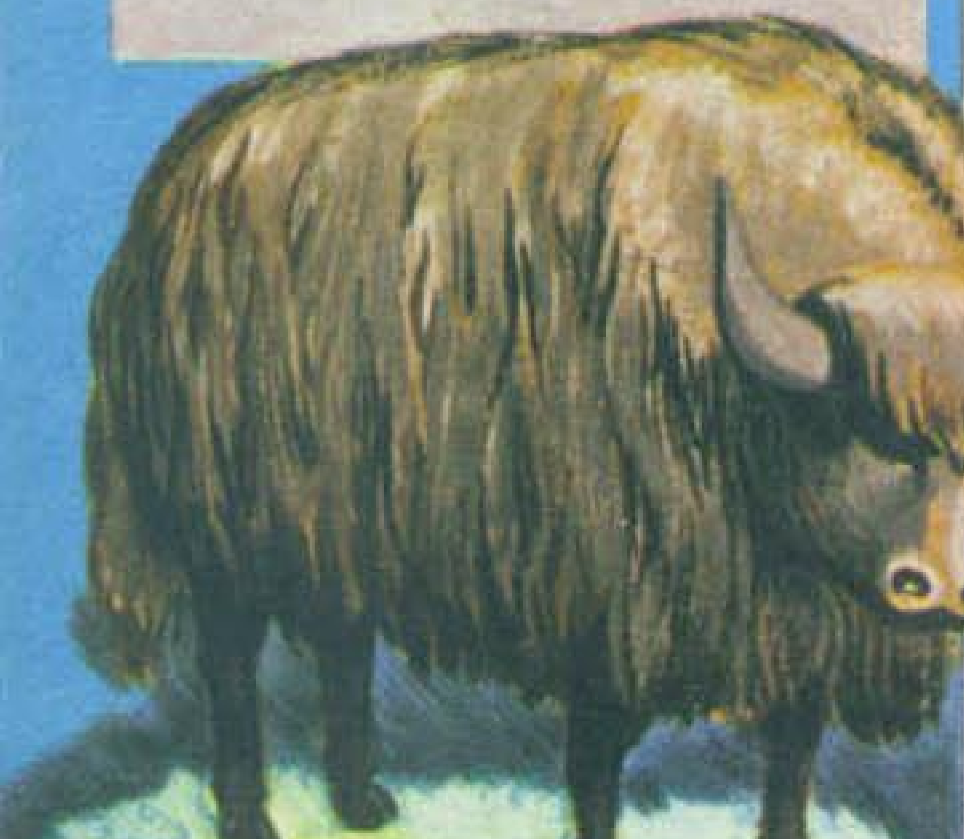
Sir Francis Drake, although a national hero, was a true pirate. He frequently plundered ships without official sanction.

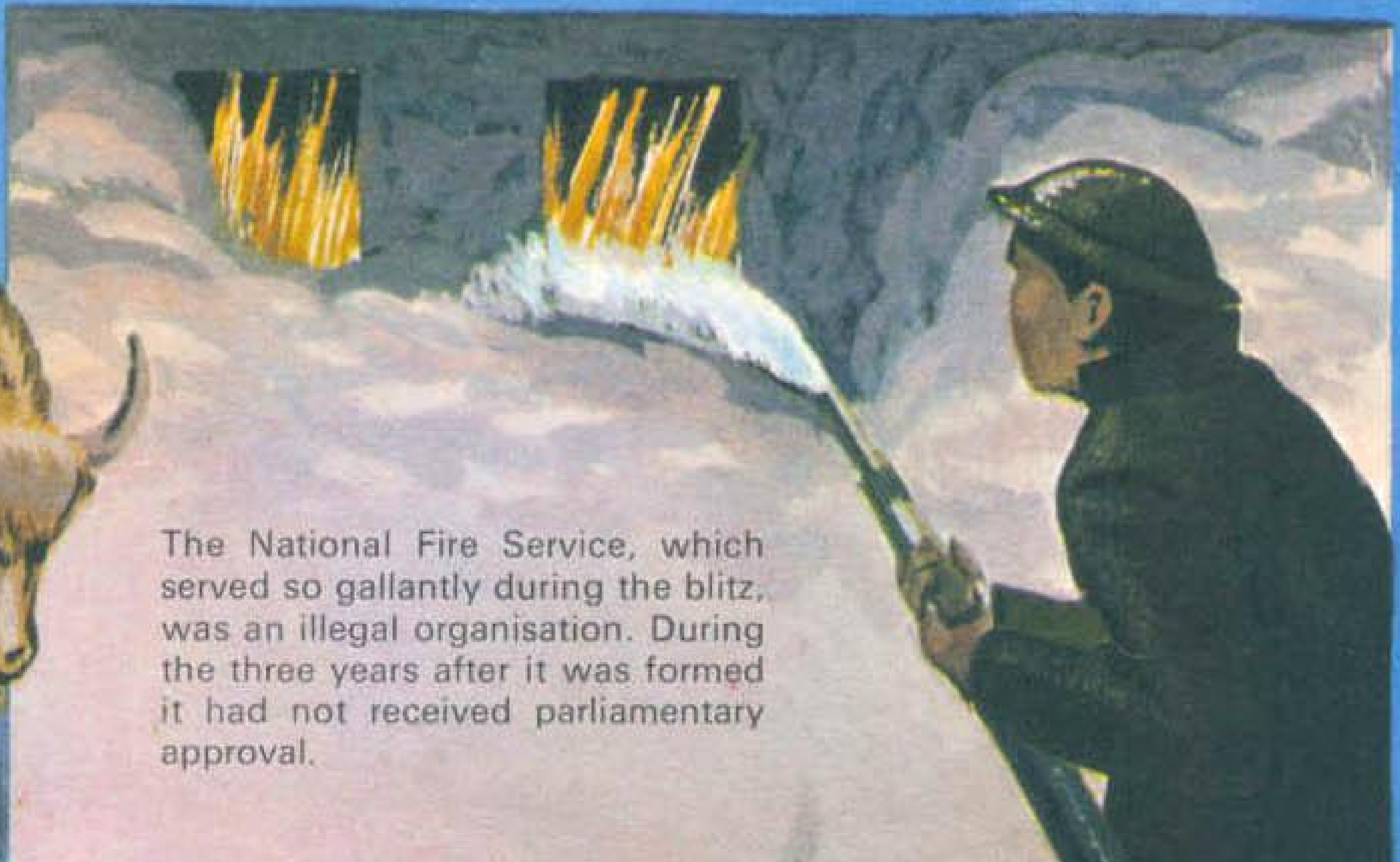
When he was executed, at Wapping on 23rd May 1701, Captain Kidd was hanged three times because the rope broke twice.

10 Downing Street is not the official residence of the Prime Minister; it is the official residence of the First Lord of the Treasury. The Prime Minister, however, is almost invariably the First Lord of the Treasury.

The term 'red tape', used to describe a rigid adherence to rules and regulations in official circles, derives from the time when red tape was used to secure documents in official and legal circles. The phrase is said to have been invented by Charles Dickens.

The Yak of Tibet is an unusual creature: shaped like an American bison, with the head of a Highland bull, the tail of a horse, the hair of a goat, and it grunts like a pig. The female Yak is called a Nak.





The National Fire Service, which served so gallantly during the blitz, was an illegal organisation. During the three years after it was formed it had not received parliamentary approval.

TEST YOUR SPACE I.Q.

With a new world of research opening to us there comes a new language too. How many of these terms have you heard before and what do they mean? Check the answers to discover your space I.Q. and to discover the answers to any that you might not have known. This test will help you to be really up-to-date on space jargon.

1. Do you know what is meant by the word *airglow?*

2. The point farthest from the earth for a body in space is known as the *apogee*. What then is the *aphelion?*

3. *Beam Riders* usually have something to do with anti-aircraft missiles. Do you know what they are?

4. What is a *console?*

5. We are all familiar with the word *countdown,* but apart from counting down the last ten seconds, *countdown* includes a great deal of work besides. Do you know what this extra work is?

6. Do you know what *heat sink* is?

7. Ernst Mach (1838–1916), was an Austrian physicist, who formulated the *Mach Number.* What is the *Mach Number?*

8. The word *sloshing* may not sound very scientific, but is is a common enough word around the space centres. What does it mean?

9. *T-Time* is a very tense time at the launching pad. Do you know what it means?

10. We've all heard of balloons, but do you know what a *rockoon* is?

Score two points for every question answered correctly.

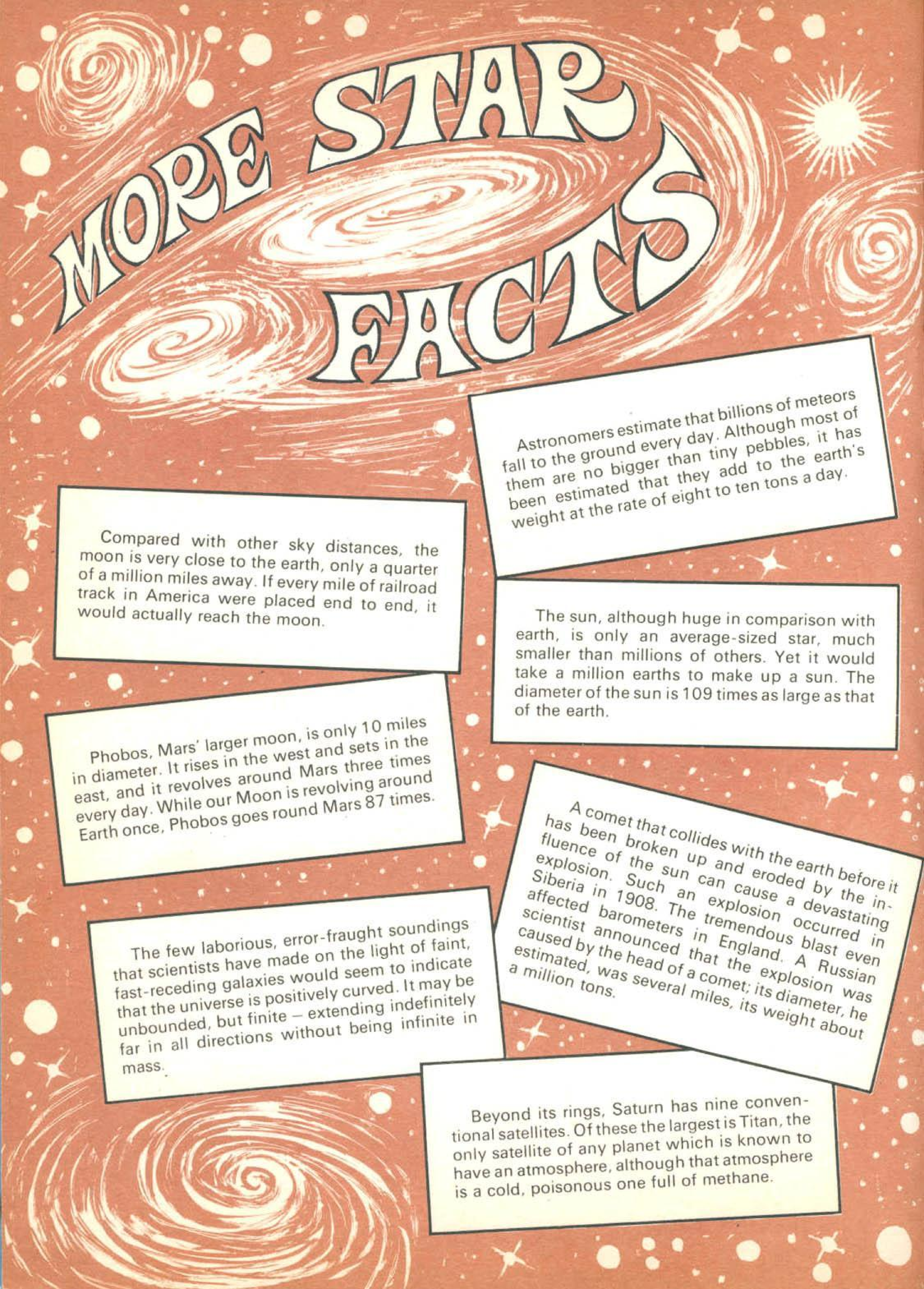
1. *The airflow is a faint but steady glow of light which is emitted from the top layers of our atmosphere.*
2. *The aphelion is the point farthest away from the sun for a body in orbit around the sun.*
3. *A missile which follows a radar beam to a target is known as a* beam rider.
4. *The arrangement of dials, switches and indicators on a panel is known as a* console.
5. *The countdown may also be the order of things to be done, from bringing the rocket to the launching pad, to take-off.*
6. Heat Sink *is a material which is capable of absorbing a great deal of heat. It is used to protect the important parts of a spacecraft when it is re-entering the earth's atmosphere.*
7. *The* Mach Number *is a method which measures the flight speed in conjunction with the speed of sound, therefore it can only be applied within the atmosphere. Mach I is the speed of sound. Mach 2 is twice the speed of sound and so on. If the flight speed is less than Mach 1, then the speed is said to be 'subsonic'; if larger than one but less than five, then it is 'supersonic'; more than five means that the speed is 'hypersonic'.*
8. *When a fuel tank is no longer full, the splashing back and forth is known as* sloshing. *Bad sloshing could make a rocket fail and is therefore very dangerous.*
9. T-Time *is the second when the rocket is actually launched.*
10. *A* rockoon *is an instrument-carrying rocket which is carried to a height of 80,000 feet or more, by balloon, before the rocket engines are fired.*

If you scored:

12–20 Consider yourself very bright indeed. You may be our space experts of the future.

8–12 Not bad, but you could have done better. Read through the answers and then try the quiz again.

Below 6, I don't think you'll ever design and launch your own rocket. But take comfort, it is a very hard quiz!



MORE STAR FACTS

Astronomers estimate that billions of meteors fall to the ground every day. Although most of them are no bigger than tiny pebbles, it has been estimated that they add to the earth's weight at the rate of eight to ten tons a day.

Compared with other sky distances, the moon is very close to the earth, only a quarter of a million miles away. If every mile of railroad track in America were placed end to end, it would actually reach the moon.

The sun, although huge in comparison with earth, is only an average-sized star, much smaller than millions of others. Yet it would take a million earths to make up a sun. The diameter of the sun is 109 times as large as that of the earth.

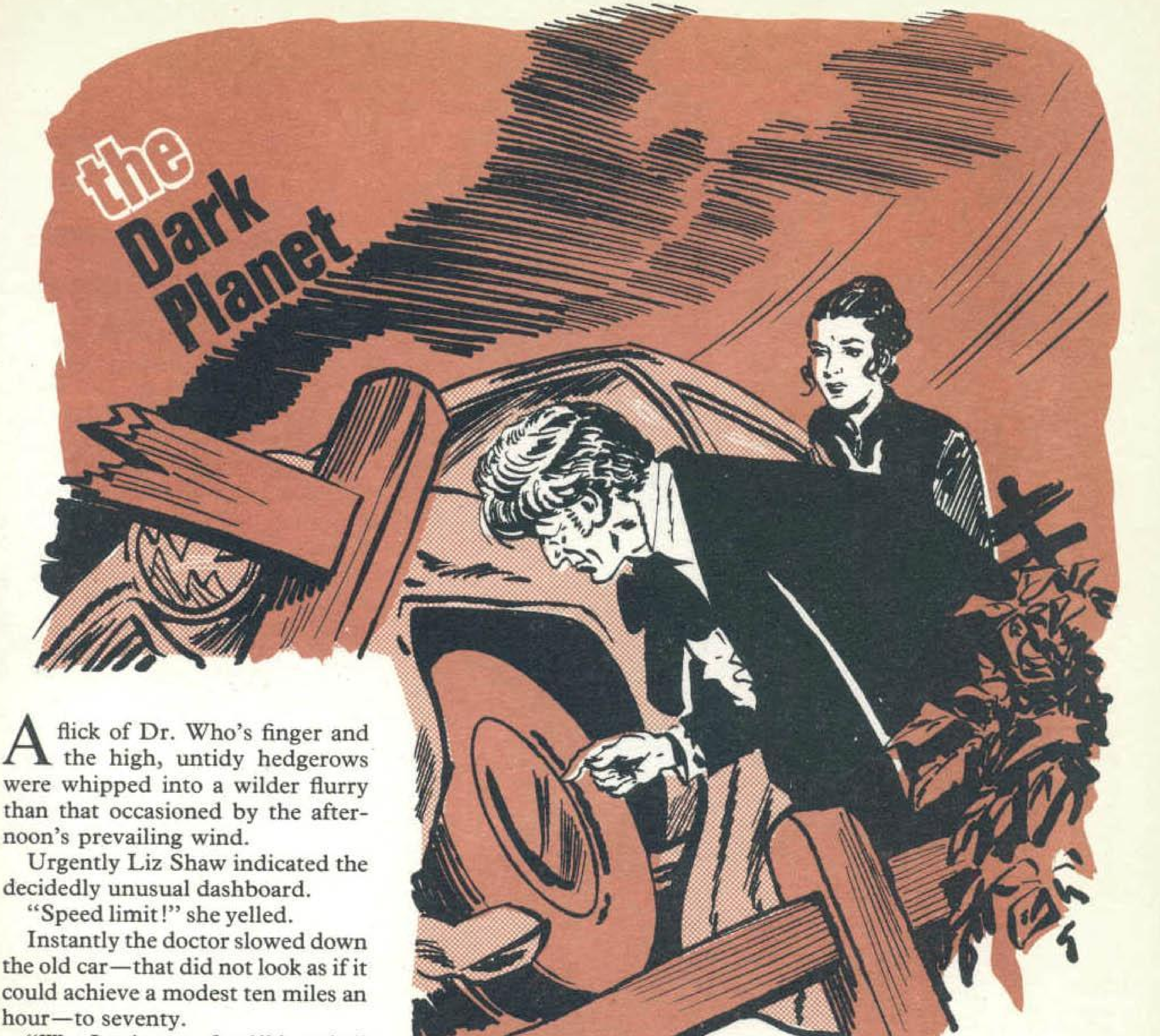
Phobos, Mars' larger moon, is only 10 miles in diameter. It rises in the west and sets in the east, and it revolves around Mars three times every day. While our Moon is revolving around Earth once, Phobos goes round Mars 87 times.

A comet that collides with the earth before it has been broken up and eroded by the influence of the sun can cause a devastating explosion. Such an explosion occurred in Siberia in 1908. The tremendous blast even affected barometers in England. A Russian scientist announced that the explosion was caused by the head of a comet; its diameter, he estimated, was several miles, its weight about a million tons.

The few laborious, error-fraught soundings that scientists have made on the light of faint, fast-receding galaxies would seem to indicate that the universe is positively curved. It may be unbounded, but finite – extending indefinitely far in all directions without being infinite in mass.

Beyond its rings, Saturn has nine conventional satellites. Of these the largest is Titan, the only satellite of any planet which is known to have an atmosphere, although that atmosphere is a cold, poisonous one full of methane.

the Dark Planet



A flick of Dr. Who's finger and the high, untidy hedgerows were whipped into a wilder flurry than that occasioned by the afternoon's prevailing wind.

Urgently Liz Shaw indicated the decidedly unusual dashboard.

"Speed limit!" she yelled.

Instantly the doctor slowed down the old car—that did not look as if it could achieve a modest ten miles an hour—to seventy.

"Was I going too fast?" he asked apologetically.

"No faster than the speed of light, I suppose." Liz's relief escaped in sarcasm.

The doctor grinned. "A long, straight road like this, not another vehicle in sight, perfect visibility, and . . ."

"There is another car coming now," Liz pointed out, as one topped the horizon.

"Good gracious!" Dr. Who stiffened with disapproval. "What an atrocious way to drive."

Liz, too, was staring, for the oncoming car was swerving drunkenly from one grass verge to the other; once it spun a complete circle.

"Must be out of control," she gasped.

"Oh, I don't know. Looks more like two people with very different ideas fighting for the steering wheel," observed the doctor, and, realising there was no predictability in the car's course, he promptly reversed his own car, without a backward glance, through a concealed opening they had passed minutes before.

Liz, as always when out in the doctor's car, tried not to register amazement.

"To the rescue!" called Dr. Who, as there was a violent screeching of brakes beyond the hedge, followed by the splintering of wood and glass.

Liz hastened to join him.

The car had crashed into a gate on the other side of the road, and was shuddering in its last throes. Inside were not the two passengers the doctor had predicted, but simply a red-headed youth wearing a striped scarf. The seat belt still held his slumped body.

"You stay; you're the doctor," Liz commanded.

"Hardly the medical kind. I mean . . ."

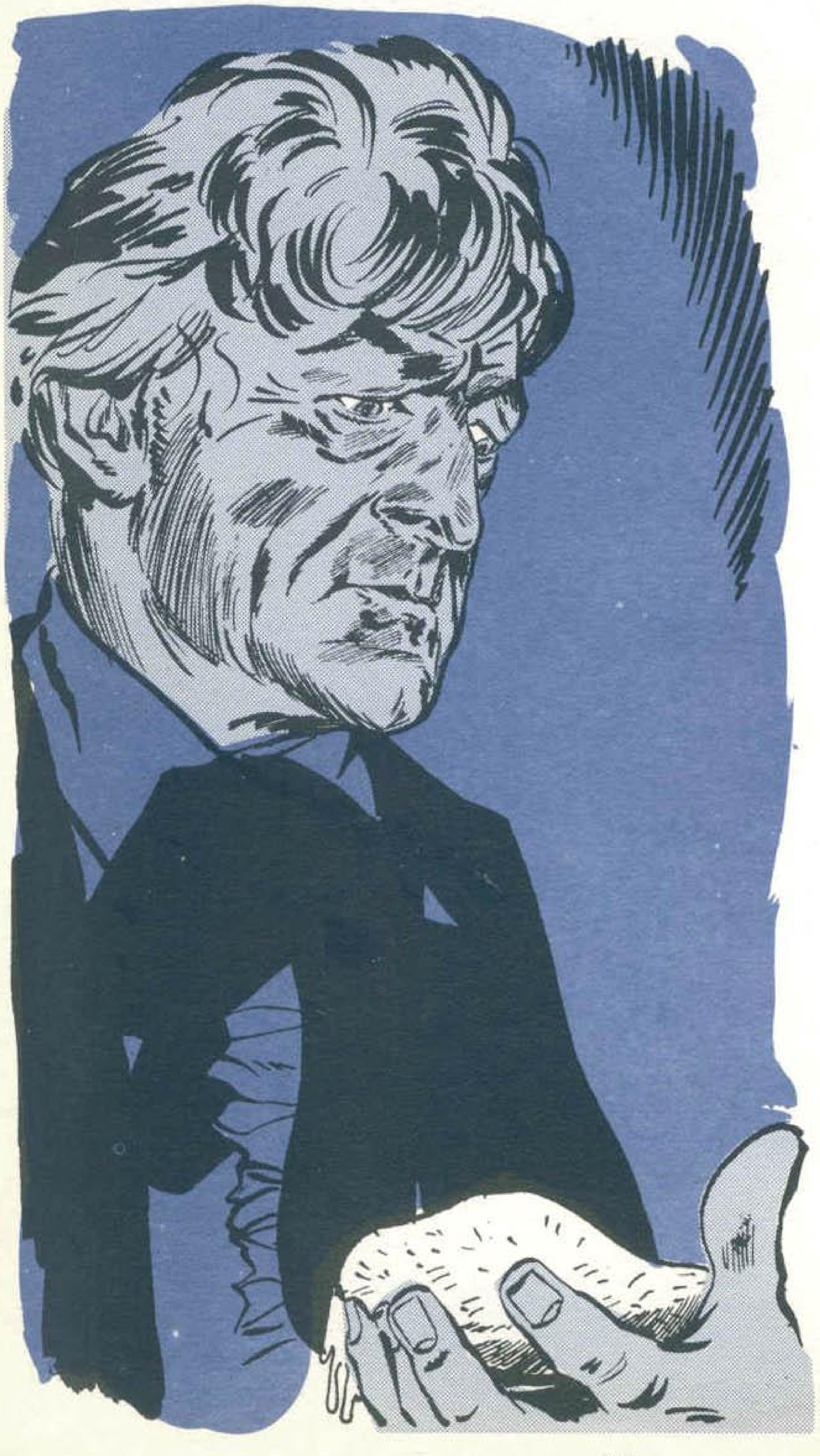
Dr. Who's protestations were useless. Liz was already racing for the AA box she remembered them having passed.

The doctor lowered his head to peer into the car, unavoidably treading on papers which had spilled out when the driving door had burst open. As he stooped, intending to retrieve them, the wind mockingly lifted them high and wide. Ruefully Dr. Who watched their escape flight. A solitary sheet, speared by the hawthorn hedge, flapped unavailingly.

The doctor turned his attention back to the youth. Endeavouring to assure himself nothing vital was broken before he released the boy, his hand encountered a wet, farside pocket. He craned over and saw a spreading dark stain. Not blood, though, so he lifted the boy out, and when he had him on his side on the grass verge, he thrust curious fingers into the jacket pocket.

Quickly he withdrew them, not only bleeding, but with several fine glass splinters imbedded.

A rocket can be just as well propelled in a void as in the air. It is propelled not just by pushing against the surrounding air, but by the gas ejected by the jet nozzle.



More carefully this time, he thrust in his other hand, and pulled out something which, even from him, drew a shudder of revulsion.

He repressed an almost uncontrollable urge to drop the thing, and, wincing, for his right hand was painfully in need of attention, he felt for his handkerchief.

Before wrapping the object, he sniffed at it in an endeavour to identify the liquid in which presumably the thing had been floating till its glass container was smashed by the crash. The preservative was unfamiliar and the thing itself was certainly not of the Earth order Mollusc, he decided. Yet undoubtedly the thing *was* a specimen, and therefore dead. He extracted a larger piece of glass bearing a label: Lab. 4.

The doctor had no partiality for slugs, and yet he acknowledged that not even an outsize one would have repelled him as this thing did, with its mouthless, opaque body, covered with minute hairs.

He made certain none of the glass had pierced the youth's clothing, and wrapped him warmly in the car blanket.

Now for the paper. He trod forward purposefully.

Liz, returning with the news that ambulance and police were on their way, found the doctor squatting on the verge, elastic-sided boots and trouser bottoms much muddied.

"What's that you're reading?" She peered over his shoulder.

"Absolutely no idea." He thrust the paper up at her. "New kind of maths, do you think?" he suggested hopefully.

Liz shrugged. "If so, they're of a kind beyond me. Goodness, your hand!"

But the doctor was not interested in his hand.

The ambulance and police car arrived almost simultaneously.

"One of the bright lads from Sayle College, eh!" said the older policeman, recognising the scarf. "Not often one of *them* goes berserk."

The younger policeman extracted a driving licence. "Philip Larrent . . . Steering wheel must've gone out of control, I should think."

Liz, who did not see Dr. Who's warning grimace, embarked on the doctor's theory that it had seemed as if two people were fighting for control of the car.

"You're sure there wasn't a passenger? Nobody might've jumped out and ran for it quick like?"

"Only if they were invisible," said the doctor. The policeman's stare was bleak.

"Anyway, if there was someone else their fingerprints may be on the steering wheel, mayn't they?" said Liz.

"If they had hands," said the doctor.

"*If* they wasn't wearing gloves," said the policeman heavily, frowning in disapproval at the doctor.

The ambulance doors were fastened.

"Cottage hospital?" called the policeman. The driver nodded.

"Now, sir," he said, turning back to Dr. Who, "we'd just like to take a look at your car, sir."

"It's behind that haystack over there."

The policeman exchanged glances, and exchanged them again when they saw the car.

"Not a *British* model, sir?"

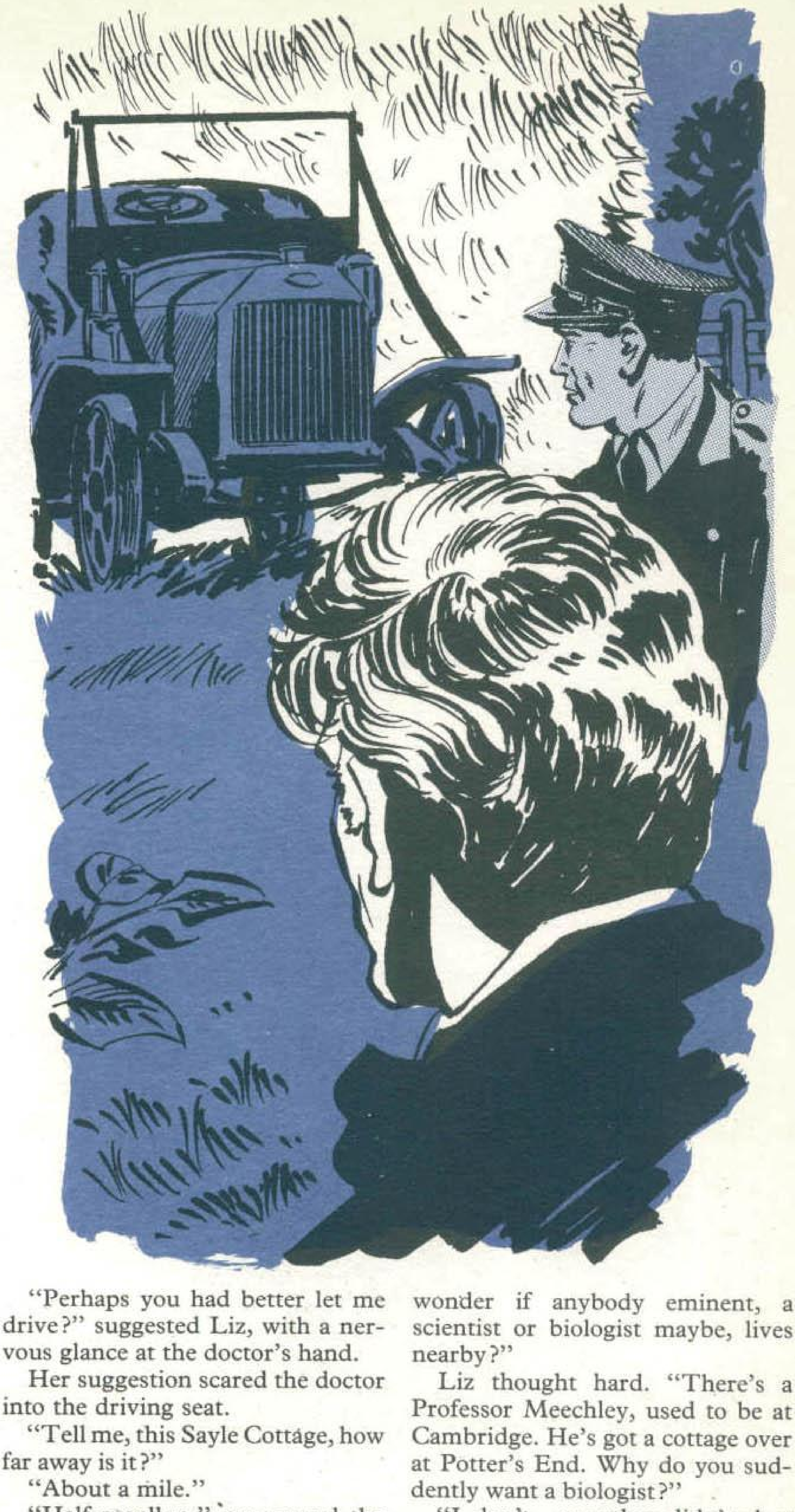
"Home-made," said Liz hastily.

"Roadworthy?" Obviously they did not consider it looked it.

In indignation that could not possibly be described as silent, the doctor was persuaded to produce both a driving licence and a roadworthy certificate.

"Looks like you'd better pay the hospital a visit yourself, sir," was the parting advice of the satisfied British law.

"Later," murmured the doctor. "Later."



"Perhaps you had better let me drive?" suggested Liz, with a nervous glance at the doctor's hand.

Her suggestion scared the doctor into the driving seat.

"Tell me, this Sayle Cottage, how far away is it?"

"About a mile."

"Half a gallon," murmured the doctor.

"What?"

"That youth had only half a gallon of petrol. I checked. Now I wonder if anybody eminent, a scientist or biologist maybe, lives nearby?"

Liz thought hard. "There's a Professor Meechley, used to be at Cambridge. He's got a cottage over at Potter's End. Why do you suddenly want a biologist?"

"I don't—or rather didn't; but that youth did."

"A young student wouldn't dare to call on someone as unapproachable as the professor."

"Depends on his errand or urgency. Now this place, Potter's End . . ."

Liz directed him to the right hamlet, and up the right lane.

"He probably won't be at home," she said, as they drove under a brick arch.

"If he's a short man with a long head, he is," said the doctor, observing such a man hurrying towards them from the creeper-walled house.

"He is!" admitted Liz, and she got out to make the necessary introductions.

"It's delightful, of course, to see you again, Miss Shaw," said the biologist dryly, "though I have no idea to what I owe the pleasure . . ."

"Philip Larrent," said the doctor.

The biologist stared.

"You were expecting him?" The doctor's humorous gaze was confident rather than questioning.

"Well I—I know the boy, of course. Slight relative, actually but . . ."

Liz told him of the accident.

"Dear me, how dreadful!" His shocked concern was genuine. "I must go at once to the Cottage Hospital. However, I cannot conceive why you should think he was coming here. I can assure you . . ."

"I imagined he was bringing you something."

"Oh, now, really . . ." the biologist began to protest.

Dr. Who drew from his pocket the *something*, wrapped in his handkerchief.

Sweatbeads glistened on the biologist's long upper lip.

Slowly, tantalisingly slowly, the doctor began to unfold the handkerchief.

"Ugh!" Liz's comment was involuntary.

"What on earth is it?" she demanded.

The biologist thrust his eagerly twitching fingers firmly behind his back.

"No idea. Have you, Professor Meechley?"

"Certainly not. I mean . . ."

"But you were hoping to find out, weren't you?" pressed Dr. Who. "I expect Larrent told you about the specimen in the lab and you said could he bring it along on his half-day, eh? And not a word to anybody."

The biologist was wetting dry lips.

"Shall we go inside?" suggested Dr. Who.

"W-we!" Professor Meechley stared indignantly. "My dear fellow, this is hardly any concern of *yours*."

The doctor began to mutter something about inveigling students to steal things from their college labs, not to mention papers . . .

They were gestured inside without further protest.

"What *is* this all about?" Liz managed to hiss.

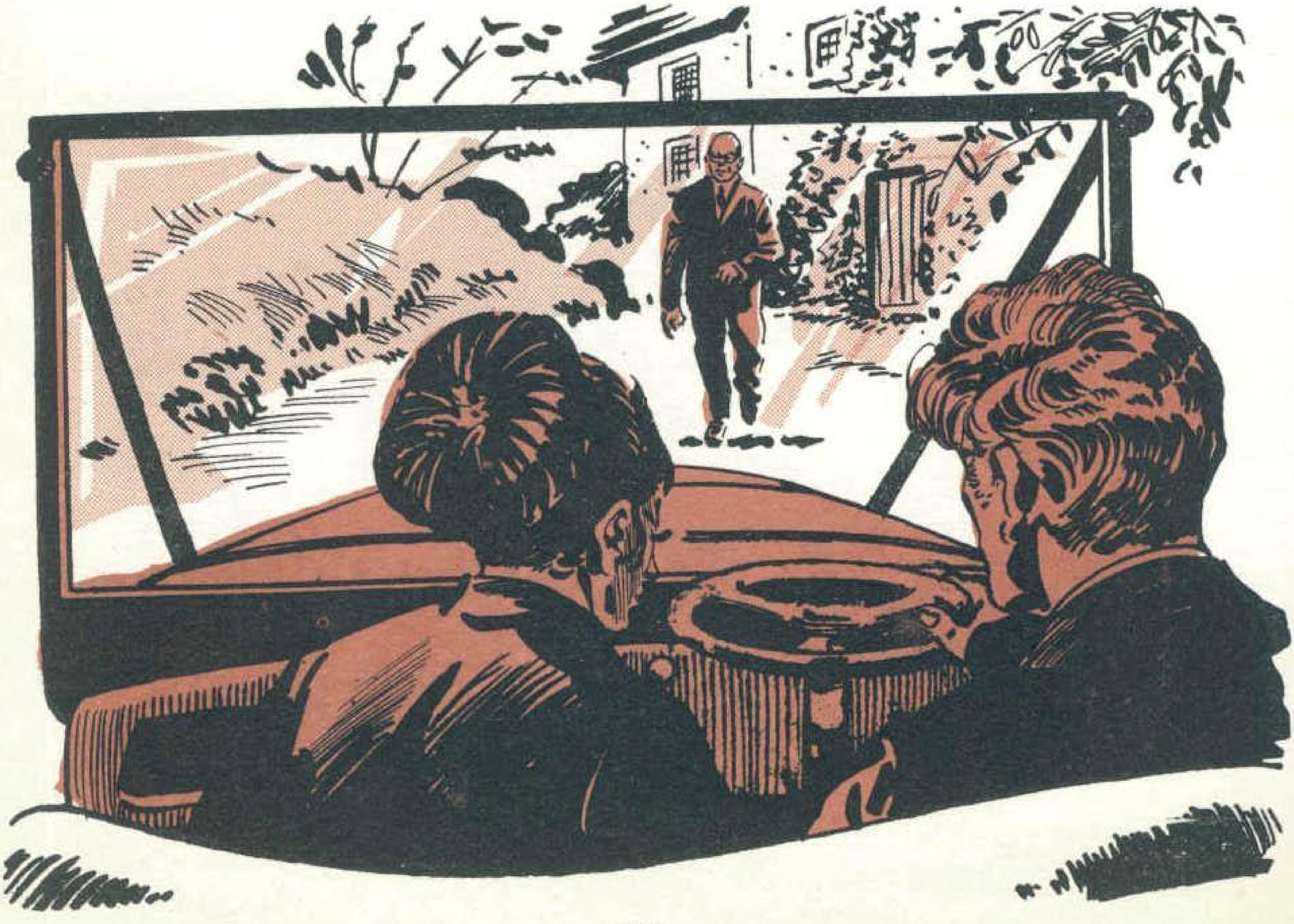
"Told you; I've no idea."

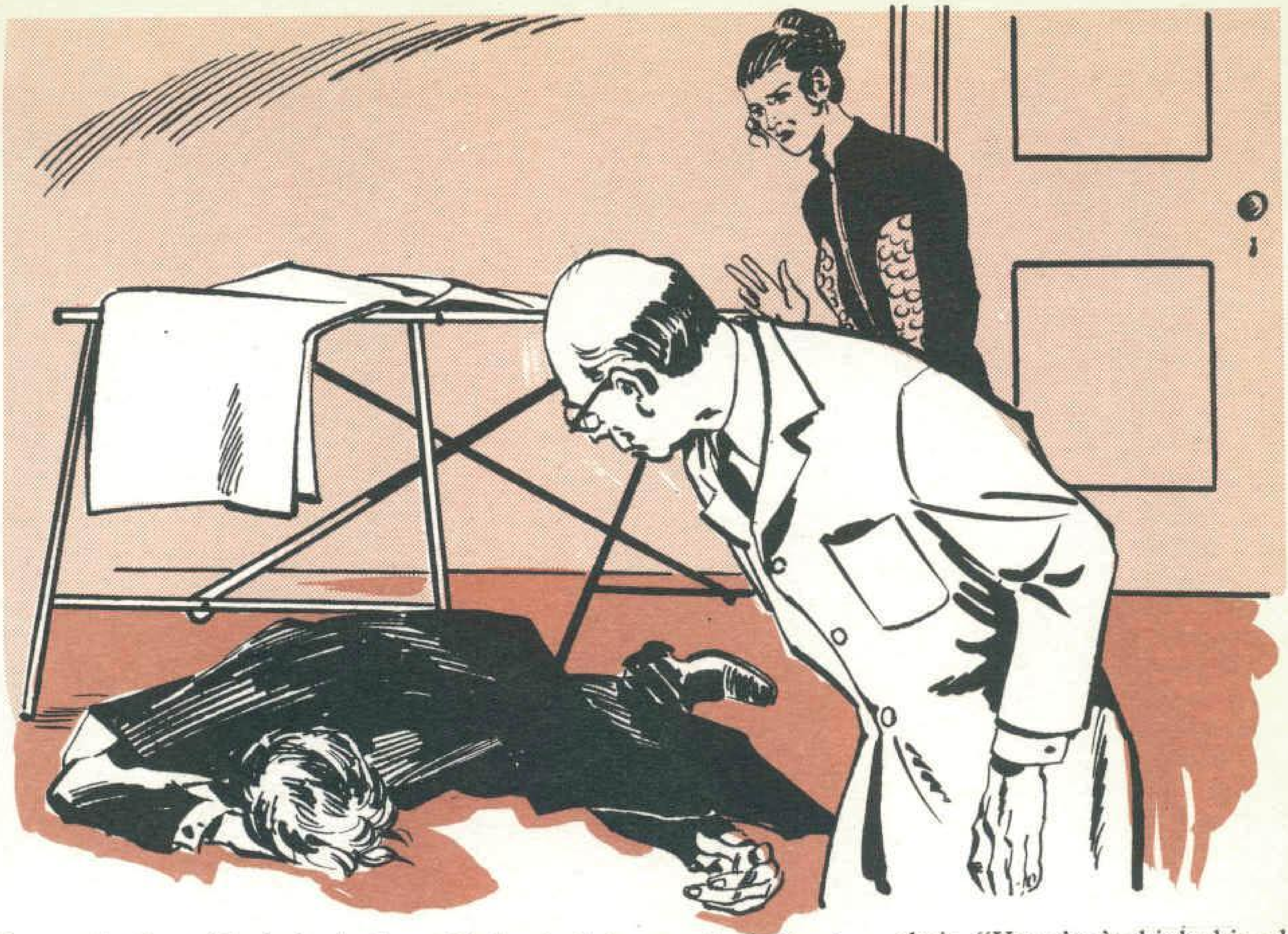
"Doctor, you seem to have forgotten we were on our way to a meeting of UNIT," said Liz. "Brigadier Lethbridge-Stewart..."

"May have reason to be very grateful to us. Or rather to me," Dr. Who added modestly.

Professor Meechley, admittedly upon Liz's suggestion, said he would attend to Dr. Who's hand before beginning dissection.

Dr. Who protested; Liz insisted.





Afterwards she wished she had not, for she could think of no other reason, than that something was applied to the dressing, why the doctor slipped suddenly under the dissecting table.

The biologist, with tut-tuts of impatience, drew off his gloves and helped her carry the doctor into the little white-walled annexe, where there was a chair. He would go and fetch some . . .

Liz did not quite hear what, being concerned with getting the doctor's shirt open.

Dr. Who's colour improved, but he showed no sign of coming round, and the biologist was being a long time.

She went impatiently to the door and found it locked. Banging and shouting produced nothing; it did not even awaken the doctor.

Cursing herself for her stupidity in trusting the biologist, she returned to the doctor. It was a full fifteen minutes before his eyelids began to flutter, and a further five before he was capable of understanding what she was saying.

He lurched doorwards, feeling in his pocket for the little piece of wire he always carried.

The door opened, and he fell back against the wall. Fortunately he still could not form coherent words, so Liz was spared any comments. Together they stared upon the empty lab, and an equally empty garage. Biologist, car and specimen had gone.

"And we cannot prove it was ever here," said Liz.

The doctor shook a folded paper out of his boot. "The Brigadier will be getting impatient," he said.

Brigadier Lethbridge-Stewart sighed as he scanned the comments attached to the paper which Dr. Who had presented to him upon his late arrival.

"No good, doctor, none of our experts here can break down this seeming mathematical gibberish."

Dr. Who glowered his disappointment. Liz heard him muttering that he hoped the professor was having more success with his specimen.

The Brigadier shifted in his chair. "You don't think this whole affair could be a hoax?" he suggested. "Something cooked up by Larrent and his fellow students. Doubtless they'd get a lot of amusement out of trying to baffle an expert like Meechley."

The doctor, who had been growing progressively more violent at each of the Brigadier's suggestions, remained disconcertingly glacial at this one.

Professor Meechley had vanished into the blue; Larrent was under sedation; the paper remained incomprehensible; and the Brigadier was hardly being his usual intelligent self. Maybe he *was* more concerned with what appeared to be a re-emergence of the Yeti. Maybe certain members of UNIT had *not* been called together to investigate a mouthless, grey slug. Nevertheless, the Brigadier could at least have contacted the college.

Dr. Who got up to bid his fellows good-night.

He paused as the Brigadier's telephone began to ring and, at the cessation of the Brigadier's surprised exclamations, he sat down again.

"So that's that!" whistled the Brigadier.

"What's what?" snapped Dr. Who.

"Professor Meechley was received into the Collington Infirmary half an hour ago with a broken collar bone; concussion; severe abrasions . . ."

"His car?" questioned Dr. Who impatiently, remembering the other car's erratic progress before crashing.

"In the river Colling. Fortunately two men were on the bridge and saw the car spin out of control and crash down the bank."

"And the s-specimen?"

The Brigadier turned back to the 'phone. When he laid down the receiver it was a sympathetic, yet not unamused glance that he directed at Dr. Who.

"One of the men remembers treading into some broken glass and getting a squashy slug thing stuck on his sole. He flung it into the river."

Dr. Who's despair was noiseless.

Liz glanced at her wristwatch. "It must be ebb-tide. The thing would have been swirled out to sea by now."

"It could have got into some reeds near the bank. If the doctor wishes, at daylight I'll have the banks searched."

"No use," snapped Dr. Who. "The thing has escaped. I know it."

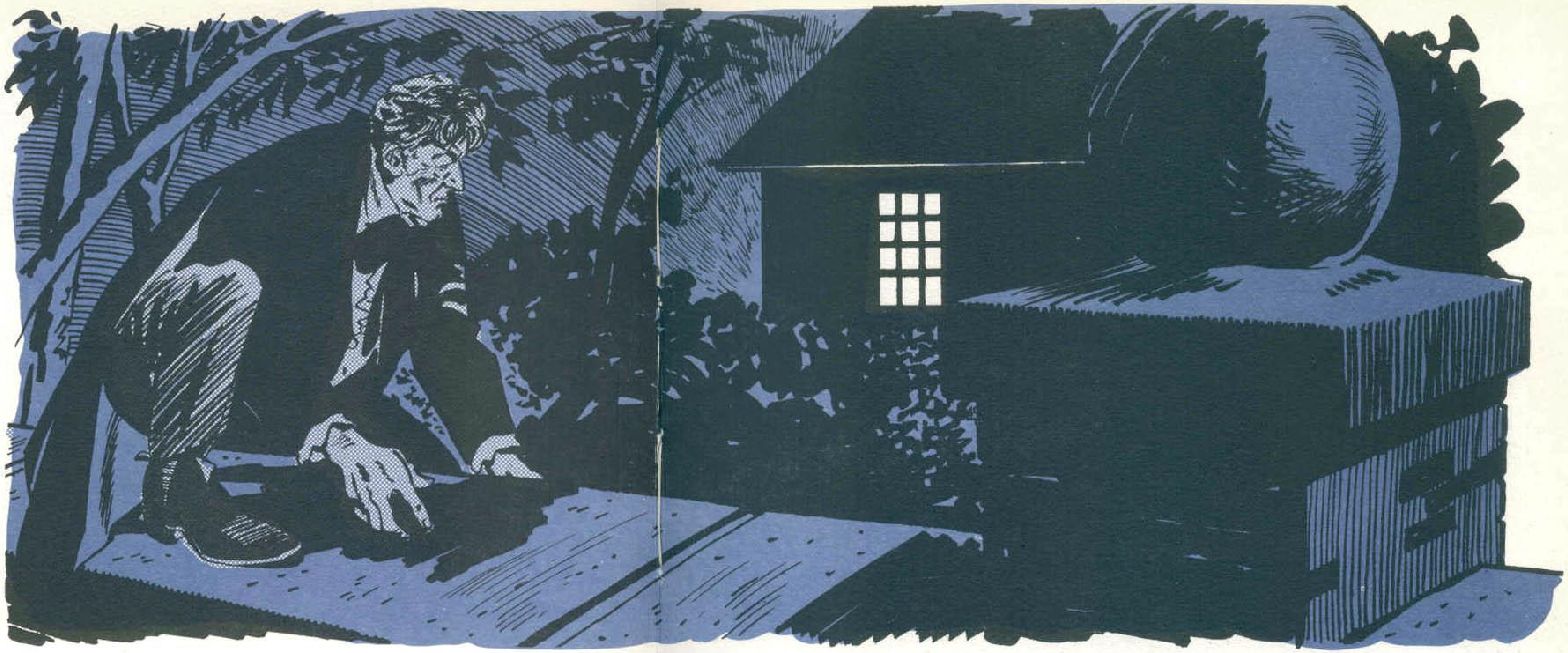
"You mean it had an intelligence; it *meant* to escape?" asked Liz, amazed.

As the doctor made no reply, the Brigadier said thoughtfully: "Come to think of it, the boy was carrying it; *he* had an accident. The professor was carrying it, and *his* car spun out of control . . ."

"And I drove to the professor's house with the thing in my pocket and *nothing* happened," said Dr. Who.

"You are not of the Earth order Homo Sapiens," exclaimed Liz. "That could have a significance."

It seemed it should tie up with the doctor's insistence that the specimen itself was not of Earth.



"But how could a specimen from outer space get into a college lab? Nothing that is brought back from our probes is ever allowed into unauthorised hands?"

"I want all available information on that college," shouted the Brigadier.

But what, after all, could brochures and photographs reveal?

"Sayle College, been in existence two years," said Liz. "Opened by the Minister of Education himself, though it is not a state college. Private funds. Herbert Bainbridge, principal. Arts man. Interesting experiments in learning . . ."

Expressing the hope that the UNIT experts might excel themselves and produce an explanation of the paper's hieroglyphs by morning, Dr. Who got up and left.

The meeting resumed discussion of the Yeti business, and Dr. Who went out into the night, his interest in the Yeti for once overshadowed.

His drive to Sayle College was a swift and uneventful one. The college itself appeared to be the usual modern collection of glass and concrete buildings. Its windows, though it was barely ten o'clock, were lit only by the moon.

That, Dr. Who thought, was strange, for he had just glimpsed a light burning normally enough in the janitor's lodge. The walls girdling the grounds and playing fields looked easily climbable, and there were no warnings of guard dogs. Even so, Dr. Who flattered himself he was not deceived.

For a long time it was thought that the moon did not rotate on its own axis. It is now known that it does, but its rotation and orbital movement are so synchronised that only one side of it faces us continually.

He made quite a business of wobbling atop the wall and floundering with apparent gracelessness into the ditch on the other side. A particularly wide and well-camouflaged ditch.

He had chosen a shadowed spot; the only sound had been that of collapsing sticks and grass; yet, with a speed that could not possibly have been coincidental, two figures came streaking from the main college building towards him.

The figures made no comment upon finding his crumpled, apparently unconscious body. One of them lifted him as if he weighed an unflatteringly light amount and bore him back into the dark, silent building.

It was bitterly cold. Dr. Who supposed there must have been a power failure, affecting both the lights and heating system. There was a dryness in the air, too, that was making it difficult for him to breathe easily.

He felt what was possibly the sleeve of a gown brush his cheek, and realised there must be a third person present. Still in silence and in darkness he was laid upon something comfortably upholstered; then he was searched.

Sharply a telephone bell rang. The receiver was lifted and a man's voice, a pleasantly deep voice, spoke normally.

"The principal speaking. Who? Brigadier—I'm sorry I did not quite catch—ah, Lethbridge-Stewart. No, I have not heard of you. You would like to see me about the boy, Larrent." A human note of uneasiness there. "Tomorrow at ten. You will be bringing your friend, Dr. Who. Very well, I shall look forward to meeting you—*both.*"

With annoyance Dr. Who realised that the driving licence in his pocket had probably already betrayed him, *if* the principal could read in the dark.

Two figures went from the room, for there was a double creak of the loose floorboard near the door, and the click of the door itself closing.

Dr. Who, becoming a little more accustomed to the air, though still finding it unpleasant, feared it was bringing on torpidity. There was the touch of a dry hand on his face; the creak of the loose floorboard; and he realised he was alone.

No one had made any attempt to revive him from his apparent unconscious state, and this made him uneasy. Did they suspect he was not unconscious?

Having waited what seemed a considerable time in case there came a silent bearer of sal volatile, the doctor slipped off the couch and peered into a corridor, lit fitfully by the moon.

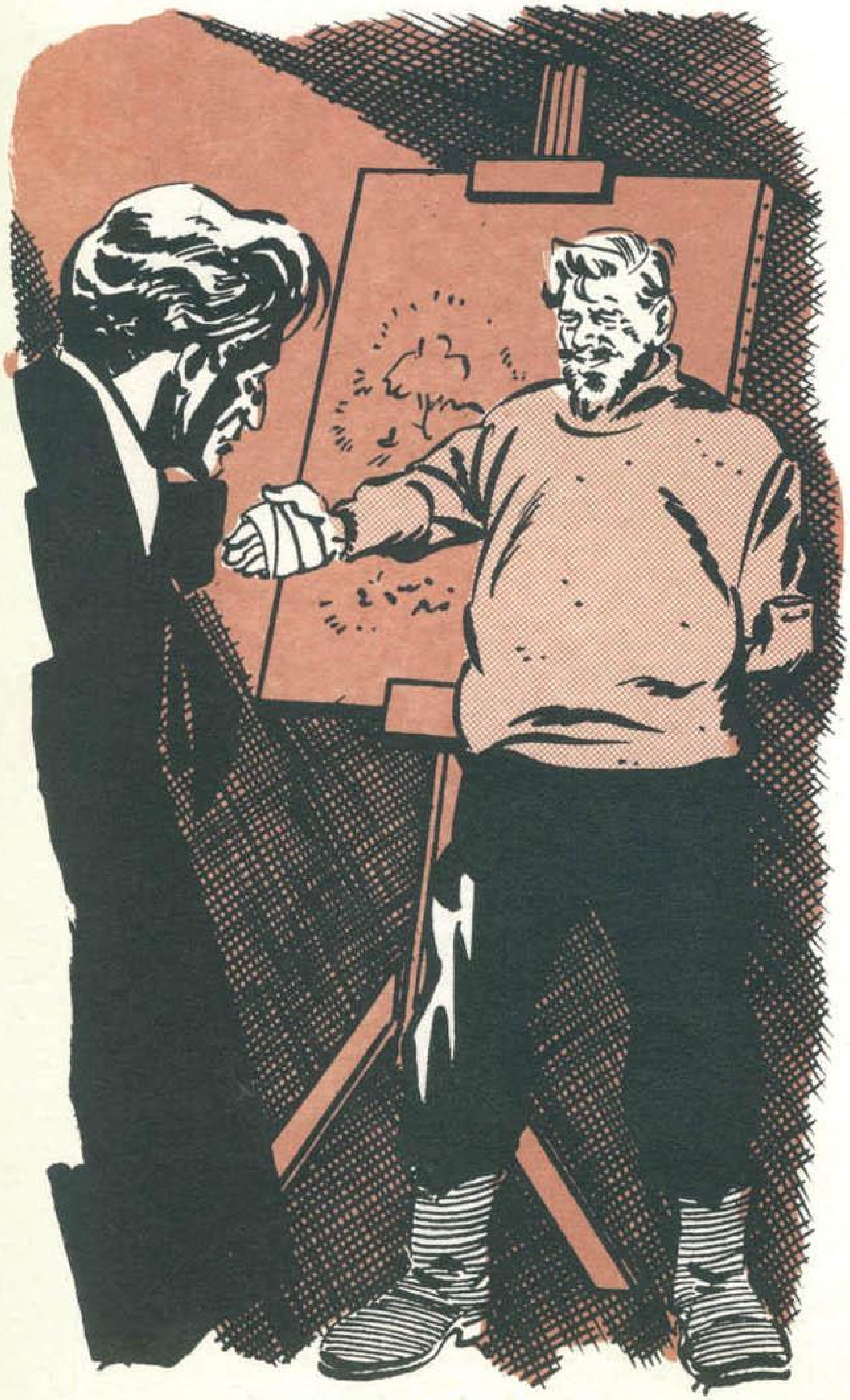
A dark figure, batlike in its gown, bore directly towards where he waited in the shadows. At the last second, also like a bat, the figure seemed to sense—could not have seen—him, and swerved away.

The doctor swallowed. Experimental education indeed.

He explored, without any further encounters, and eventually found Lab 4 and, in a cupboard-like room adjoining it, shelf upon shelf of bottled specimens, all but two of them different from, yet just as alien as, the specimen he had found in Larrent's pocket.

In another section were bottles containing—what—vegetable life? How, knowing nothing, could one be certain?

He roamed on, still meeting no one, and wishing, despite the cold, that he dare open one of the windows and fill his lungs with air. His metabolism *was* slowing down, and simple movements, like turning the knob of a door, were becoming difficult.



He slid into the art room as the moon slid into dark cloud, and he had to wait . . . When the moon emerged he realised with a shock that he was not alone. At an easel in a corner was a bulky, bearded man who rose with a chuckle.

"Ah, our intruder." He held out a thickly bandaged hand. "Stupid error of judgement," he explained. "One should never try to escape one's destiny. It is a lesson I am slow to learn."

His left arm was missing altogether, and yet the paint upon the strange picture on the easel glistened freshly in the moonlight. Dr. Who shot a quick glance at the man's feet. Both were encased in suede boots.

"*Not* with my toes, doctor," laughed the man. He indicated the easel. "What do you think of my landscape?"

"Not a local scene, I think," commented Dr. Who.

"Nor born of imagination."

Dr. Who turned to the other paintings that seemed to swirl in a dark nightmare around the walls.

"You are not enamoured?"

Dr. Who drew a deep breath and found little relief in it. "Frankly, no." He was so cold and his jaw was so heavy that he was having difficulty in forming words.

"Neither was I at the beginning," admitted the man pleasantly. "By the way, I am Clifford Leane, R.A. Don't bother to try to remember if you have heard of me."

He waggled his bandaged hand at the paintings. "But now," he said, "I am more familiar with *that* world than this. Often much against my will, doctor, for I *have* fought—this damaged hand proves it. But now it is *they* who seem normal, and people of this world—like yourself—seem alien and unpleasant."

Dr. Who's goose pimples prickled indignantly.

"Words, though I strive to retain them, I have to admit are a clumsy, inadequate means of communication. More often a mask to hide behind. And our puny senses, doctor, and our silly limbs . . . Compared to *them* what primitive creatures we are!"

"Theirs is a dark world?" hazarded Dr. Who.

"There is a little faint starlight; a certain radioactive luminescence."

Dr. Who tried to imagine such a dark world; its heat supplied by its own radioactive mineral constituents; needing neither sun nor light to support its strange life.

"You have seen them?" he queried, deeply interested.

"In actuality, no. There is no need."

"Yet you have specimens from their world in your laboratories."

"They are sent here so that we may study them."

"How are they sent?"

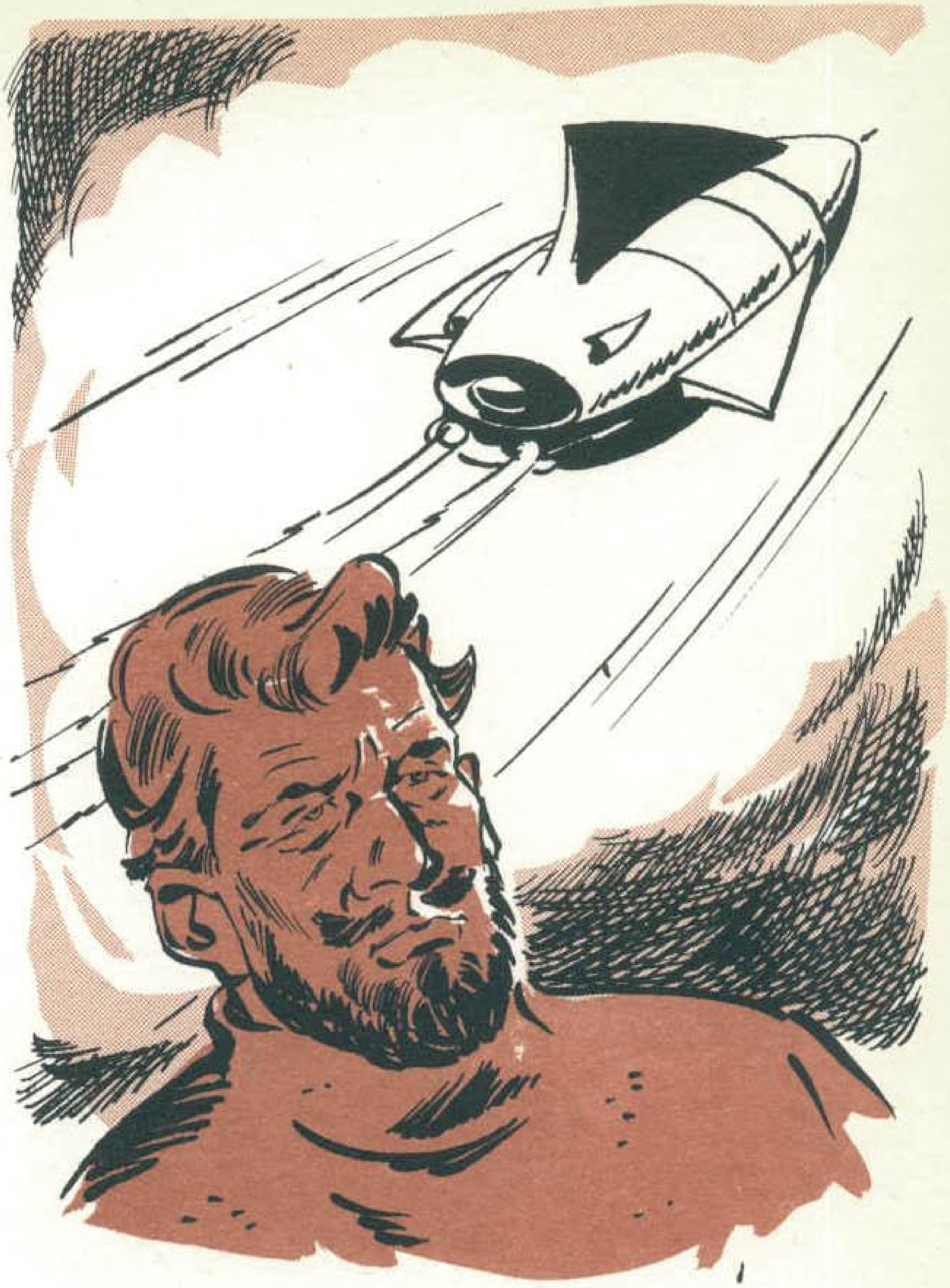
"As we eventually shall leave: in one of their spaceships. The word is ridiculously undescriptive, but I could make you understand with no other."

"When shall you leave?"

"When they consider we are ready."

Dr. Who began to realise that the darkness, the coldness were part of a deliberate conditioning . . .

"After all," said the artist, "no mere astronaut is sent into space without having been made familiar with the conditions he will encounter there. So with us! In this college, and eventually in others all over Earth, *their* conditions are simulated, *their* way of life taught to us. You would be much interested in our nether chambers."



"We are even taught to develop *their* senses. And, dear me, doctor, there is *so much* to learn if we are to take over from them."

Dr. Who struggled to force words through congealing lips.

"Why should you take over from them?"

The artist looked unhappy. "*They* desire us to; we have no choice.

"You see, doctor, they are dying out. Not all their science can save them. It happens on Earth sometimes, doesn't it, with a tribe, an animal species, and *we* can do nothing. But theirs is a civilisation, doctor, that must not die. Of that they are determined. So for centuries of our time they have been seeking a life form that can be schooled to perpetuate their knowledge, their ways, on their planet."

"How can they teach you? How can they communicate?"

"It is so simple, doctor. You need no more than something of theirs about you, and they can enter in. Sleeping, waking, they are there, and you are learning. At the beginning blackboards and apparatus are useful, but afterwards . . ."

The doctor did not hear his last words. He was realising triumphantly that the Brigadier had been right. The specimen in Larrent's pocket and afterwards in the professor's had enabled *them* to struggle for possession of the cars and crash them. The doctor himself, not being of Earth, had been immune.

He found himself wondering excitedly what it was that the first of their spaceships had dropped that the students and teaching staff had innocently picked up, thus

The largest refracting telescope is the one at Yerkes Observatory in Williams Bay, Wisconsin, America. It has two 40-inch lenses mounted in a 63-foot tube.

establishing the connections between Sayle College and *them*.

"They've experimented with Earth people before, of course," the artist was explaining. "You may remember hearing of a village, an entire Alpine village, that disappeared in 1777. There was a seeming avalanche. Had it been possible to search for bodies, none would have been found." He sighed. "But the villagers did not survive, so other methods had to be tried. *They* are sure this method will succeed."

The artist looked at him sharply with sympathy. "But all this you will discover for yourself, old chap. For you realise, don't you, that having precipitated yourself in here and learnt so much, *you* will have to become one of us."

Dr. Who, chilled as he was, started.

The artist put his bandaged hand on the doctor's shoulder. "They're not vicious, but whatever threatens their plan has to be dealt with. Remember that, and don't try fighting as I do."

As the artist made abruptly for the door, Dr. Who managed to shout: "You said they had spaceships . . . Doesn't radar . . .?"

"A child's toy, doctor. You will learn."

Dr. Who realised that it was not only his body that was heavy and numbed; he was having difficulty in thinking clearly. He lurched to his feet. If he did not escape now, he never would.

Dare he risk—he fumbled for the door—dare he risk trying to take back one of their specimens with him? By the time the Brigadier arrived tomorrow all evidence would have been hidden.

Struggling to keep his purpose in mind, he staggered along the corridors. Lab 4 . . . Lab 4 . . .He found the shelves of bottles and put out a hand to grasp one. With difficulty he stuffed it into his pocket.

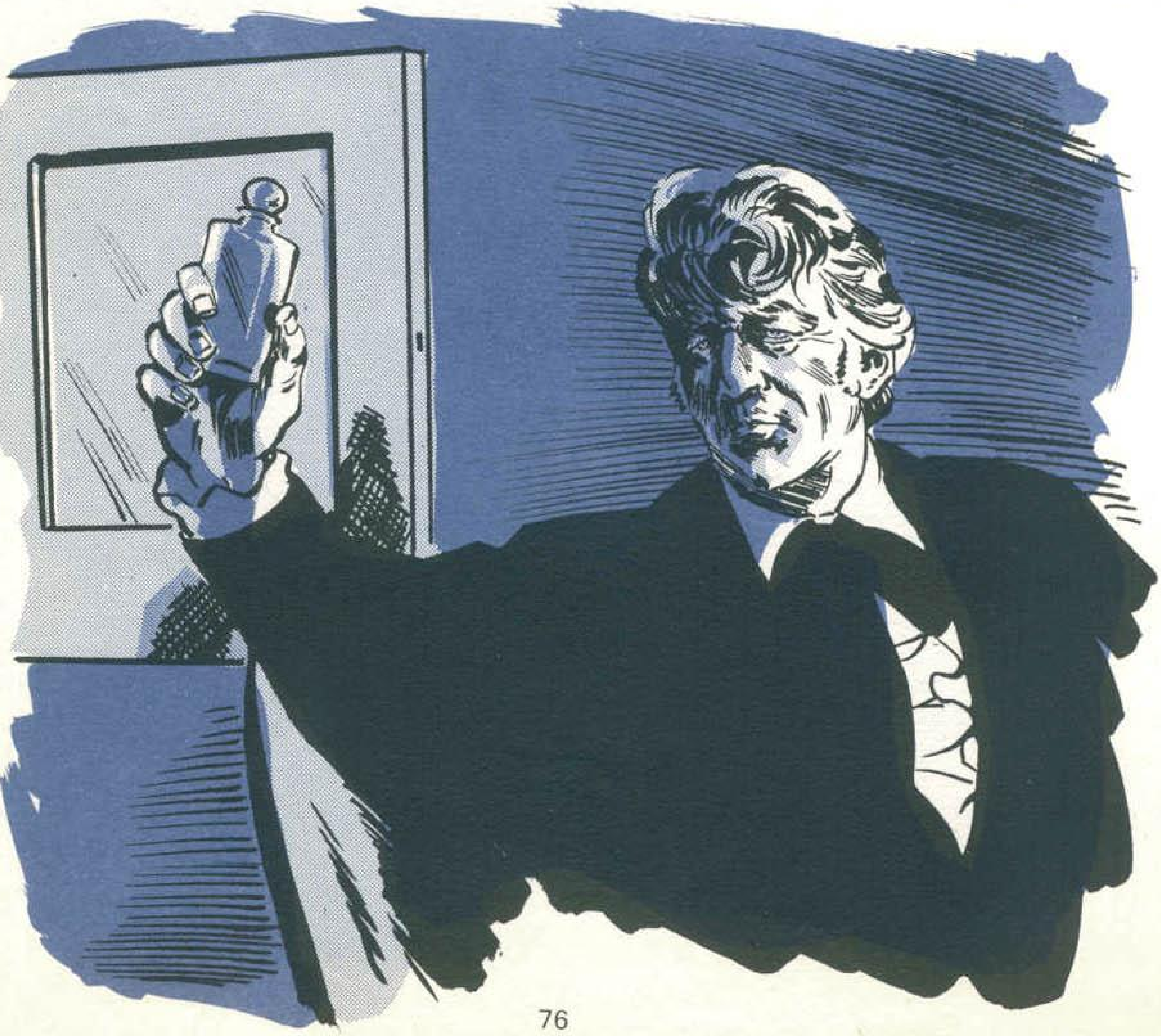
How very peculiar he was feeling! He grabbed at a table to steady himself. What was it he had to do? Something-he-must-do. For an awful moment he feared he was going out of his mind.

As abruptly as the sensation had engulfed him, it subsided. In relief he sank on to a stool, not realising at first that a gowned figure had entered the lab.

"It seems they cannot communicate with you," said the figure. "Therefore you cannot become one of us, and so must be disposed of. They say it is a pity."

Somehow the doctor managed to get to a window and open it, but before he had time to grab a lungful of reviving air, he was down. Instantly, lean, dry fingers were at his throat, pressing surely, strongly. He stared up into a face that held neither animosity nor pity—only purpose.

Gurgling, the doctor fought against black waves of dizziness. Dimly he was aware of the figure



being hauled backwards. Of lean fingers grappling with air. He caught a flash of a bandaged hand. Then the gowned figure was spinning helplessly into a cabinet that shuddered at the impact. There was a crash of falling glass, and another crash a moment later. They made strange combatants: the gowned figure and the one-armed artist.

His next impression was of being hauled doorwards, while he became surprisedly aware of flames pawing about a cupboard door. Runners of flame were streaking out towards the tables.

The grounds, he realised, as a bandaged hand deposited him on the grass, were filling silently with figures. He fancied he heard the siren of an approaching fire engine . . .

The Brigadier did not keep his appointment at Sayle College next morning, for there was no college. Barely a shell. Principal, teachers and students were in temporary local accommodation, unhurt by the fire, but in a strange state of shock. Did not seem to want to talk, even to one another.

Dr. Who and his rescuer were in hospital, the one slightly burned, the other badly bruised around the throat.

Brigadier Lethbridge-Stewart and Miss Shaw might see Dr. Who for just ten minutes, the house surgeon allowed.

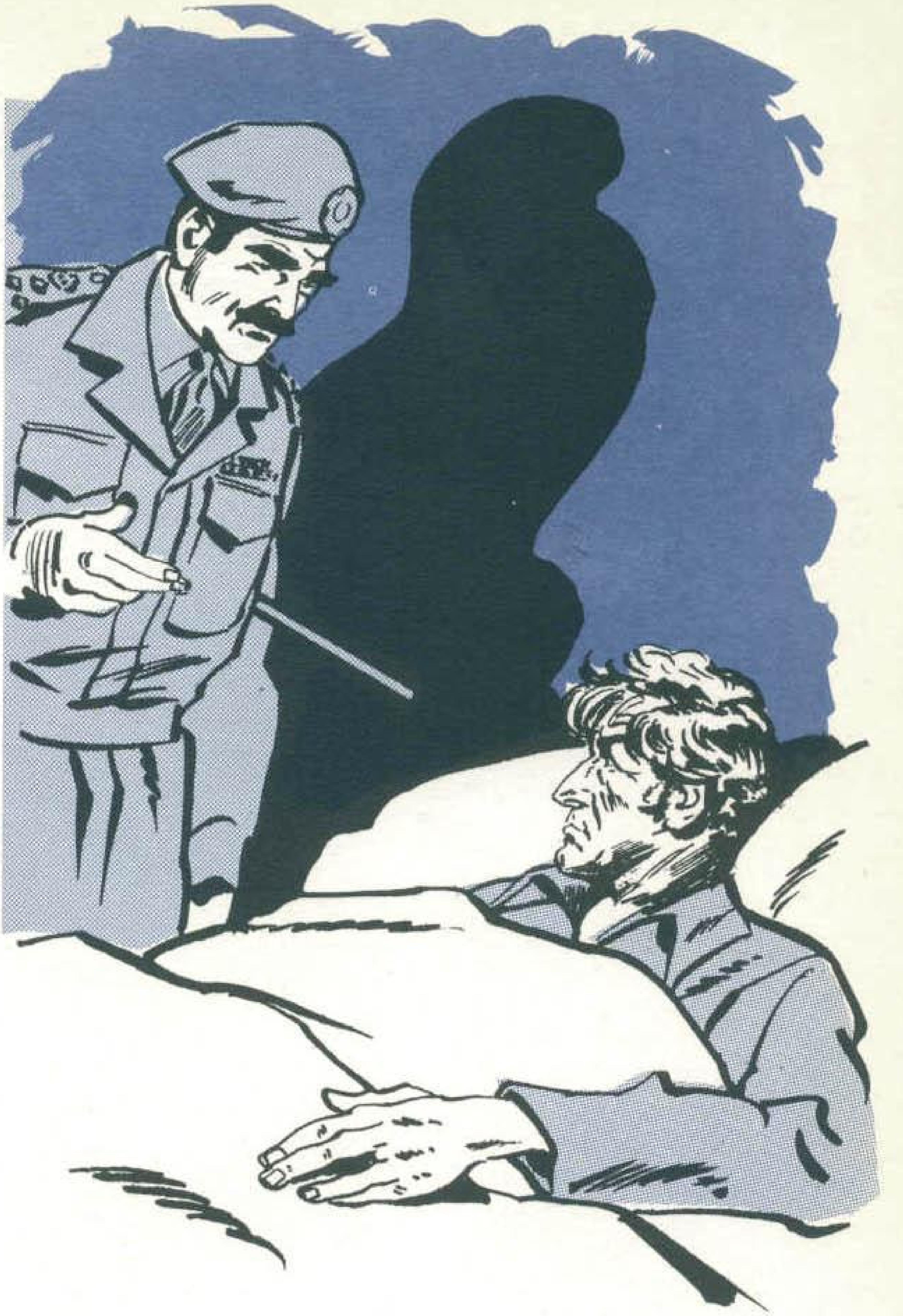
Dr. Who's bruised throat did not prevent him talking, or rather croaking.

"All that destroyed!" The Brigadier was almost in tears as the doctor finished. "Specially constructed chambers of this planet's conditions, you say; specimens, paintings . . ."

"It had to be destroyed," said the doctor simply. "*They* realised that. At least, I suppose they did when the chemicals started the fire."

"What a treasure trove that college would have been," exclaimed the Brigadier. "What things we would have learnt."

"At least the teachers and students are saved," said Liz quietly.



"We should be thankful."

"Saved!" exploded the Brigadier. "Oh, don't look at me like that, you two. Of course I'm glad they're not doomed to some ghastly existence on a black planet. But what's to happen to them now? They're neither here nor there, if you know what I mean."

"They'll have to be conditioned back to Earth, won't they?" said Dr. Who.

"And we have lost contact with *Them* for ever," groaned the Brigadier. Disappointment was his paramount emotion at present.

"I doubt it," said Dr. Who, reaching for the grapes that Liz had brought. "I wouldn't give up so easily, would you?"

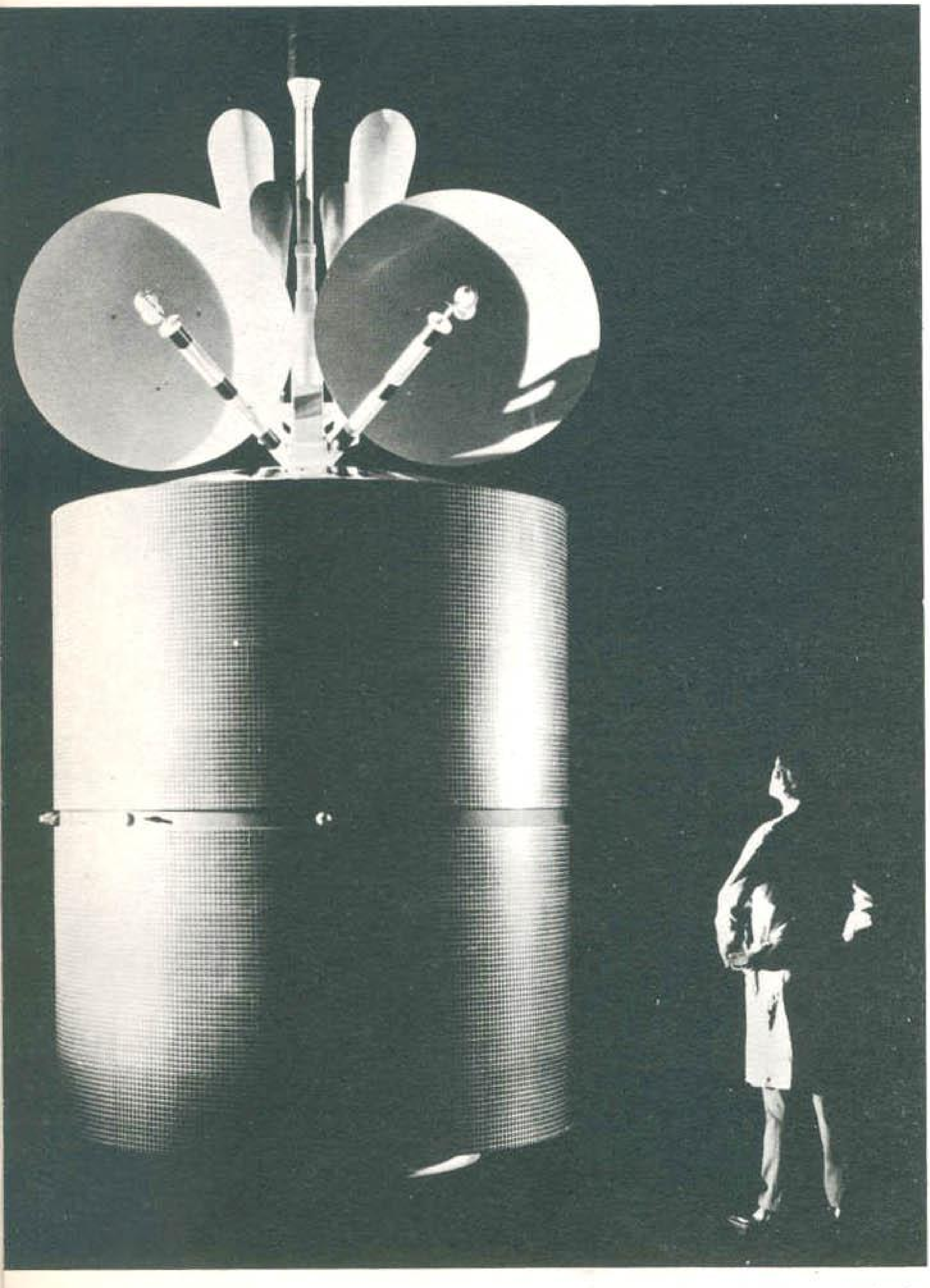
"You mean, They will try again?" exclaimed Liz, alarmed.

The doctor chewed thoughtfully. "Well, there could be one of their specimens still floating around, couldn't there? If it gets picked up, They will be in contact again."

"Most likely the thing has been swallowed by a fish by now," grunted the Brigadier.

"Then UNIT had better watch out for the emergence of a super-intelligent, if strange, mackerel—or something," said the doctor. And even Liz could not tell if Dr. Who was laughing at them, or not.

THE WHIRLING WIZARD



Intersat IV. a new communications satellite which spins round the earth at a fantastic speed.

Spinning at a fantastic speed around the Earth is a new communication satellite, the like of which no wizard ever saw in his crystal ball.

Its name – Intelsat IV.

Seen in our picture, and measured against a scientist standing near it, Intelsat IV looks a big satellite, being seventeen feet tall and eight feet in diameter. But in the immensity of Space its size is puny enough.

Yet look at the job it does.

It can handle up to 6,000 two-way telephone calls at a time between various earth stations. Or it can handle twelve colour television channels, or a large number of telephone and television channels together.

And the satellite will go on doing this job for at least seven years.

Intelsat IV is described in the language of the scientists as "a rotor-stabilised earth-oriented platform".

It has a section which spins, and one which remains still. The spinning section has solar panels mounted on its cylindrical surface. The 50,000 solar cells on these panels intercept some 4 kw of solar radiation, and convert a proportion of this to give 470 watts (direct current) power at end of life.

Also on the spinning section are the 'brains' which keep the satellite in its correct position.

The part of Intelsat IV which does not spin is called the 'despun platform'. It contains the communication repeaters, the antennas and most of the telemetry and command systems. Power is taken to each electronic unit on the spun and despun portions by means of a cable harness.

Mounted on the outside of the satellite's drum are sensors which indicate the direction of the earth and sun. This information is telemetered to earth, and if it shows that the satellite is not in its best position, then the men controlling it can flash a command into Space. The order is picked up by one of the antennas, and what happens next is rather extraordinary. For the signal causes two small jets, using hydrazine – a toxic fluid – to operate. One jet is used to correct the satellite's position. The other corrects its attitude.

Intelsat IV also carries two 'spotlight' antennas. These can be beamed at heavily populated areas, such as Western Europe and the eastern United States. In addition two earth coverage antennas can serve areas not covered by the spot beams. Ground controllers can remotely select the desired spot or global coverage.

British Aircraft Corporation, together with companies from ten other nations, have taken part in making and launching Intelsat IV. During its seven years operational life, the satellite will meet the expanding needs of global communications. For the 'whirling wizard' is able to provide unhindered links between all inhabited areas of the world without the limitations of cable networks.

AN EXCITING FUTURE FOR SATELLITES

The future of satellites is exciting. There are aeronautical satellites that will improve air-to-ground communications. This will enable air-traffic control to know and therefore control the position of airliners much more accurately than is at present possible except in the vicinity of airports.

Other satellites make weather forecasting much more accurate. This has been shown by the American weather satellites TIROS and NIMBUS.

Then there are earth resources satellites. They are expected to be able to provide continuous information on a global basis of such topics as forestry, plant growth, land and sea temperatures, water distribution, sea movement and condition, and mineral deposits.

Not long ago the darkness of the Arctic sky near Kiruna in North Sweden was made brilliant by the launching of a SKYLARK upper atmosphere research rocket.

Known as a 'sounding rocket', the Skylark has proved an outstandingly successful research tool. More than two hundred have already been fired.

The Skylark has a control unit which enables it to be accurately stabilised in flight by pointing at the sun, moon or stars.

Before any rocket or satellite is sent aloft, it is put through its paces in huge test houses. One of the largest and best equipped in the United Kingdom is the Test Laboratory of the British Aircraft Corporation in Bristol. There space-bound vehicles undergo vibration, shock and bump tests on a special rig, dynamic balancing and centrifuge tests, as well as going through a high temperature cabinet and radiant heating rig.

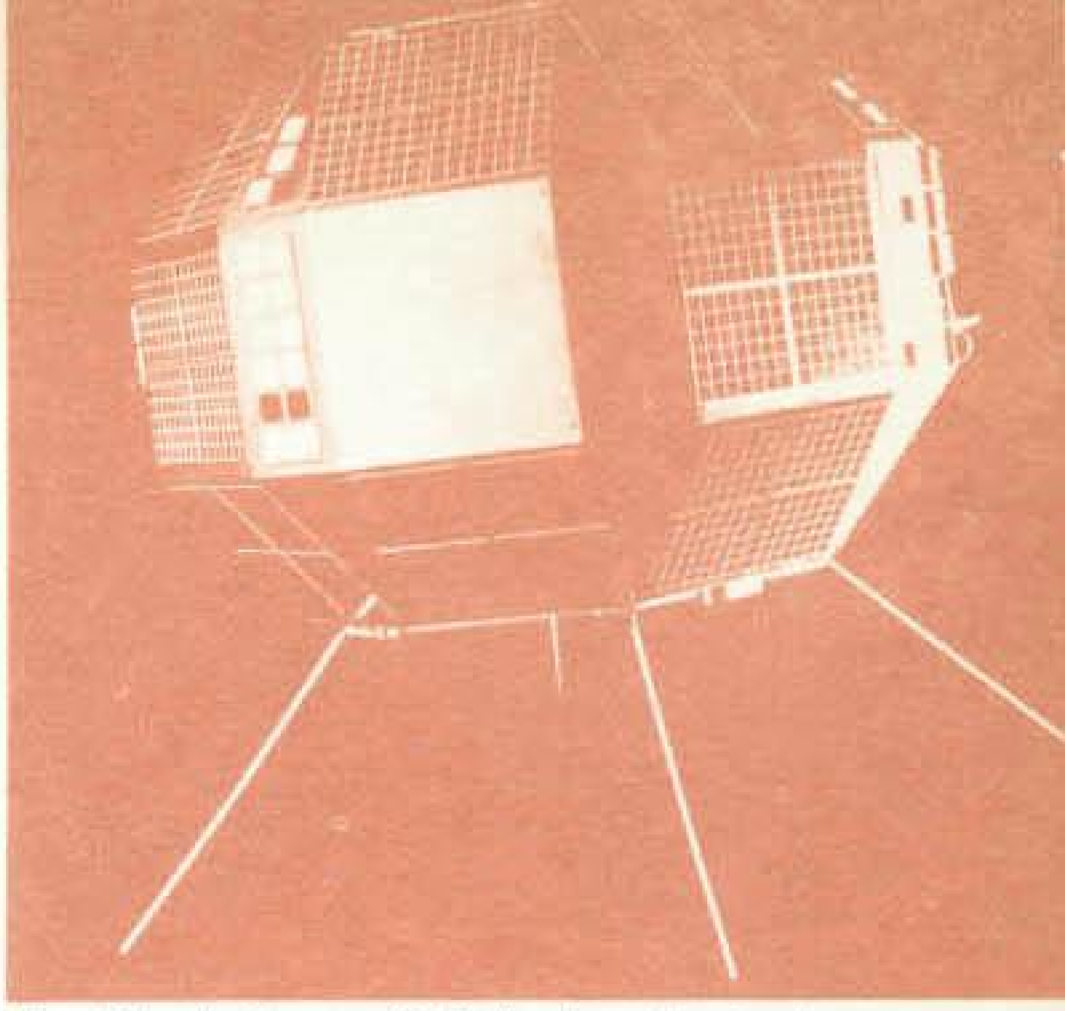
The spin facility enables a satellite body plus booms to be tested in air at the expected spin up, spin down and boom deployment rates.

The larger of the two altitude chambers, which has a 40 cu. ft. working space, is able to simulate altitude conditions up to a maximum of 1,000,000 feet, a pressure of 8 mm. of mercury.

The thermal vacuum space simulation chamber can test spacecraft components in a realistic space environment with temperatures between liquid nitrogen – minus 195 degrees Centigrade – and plus 150 degrees Centigrade.

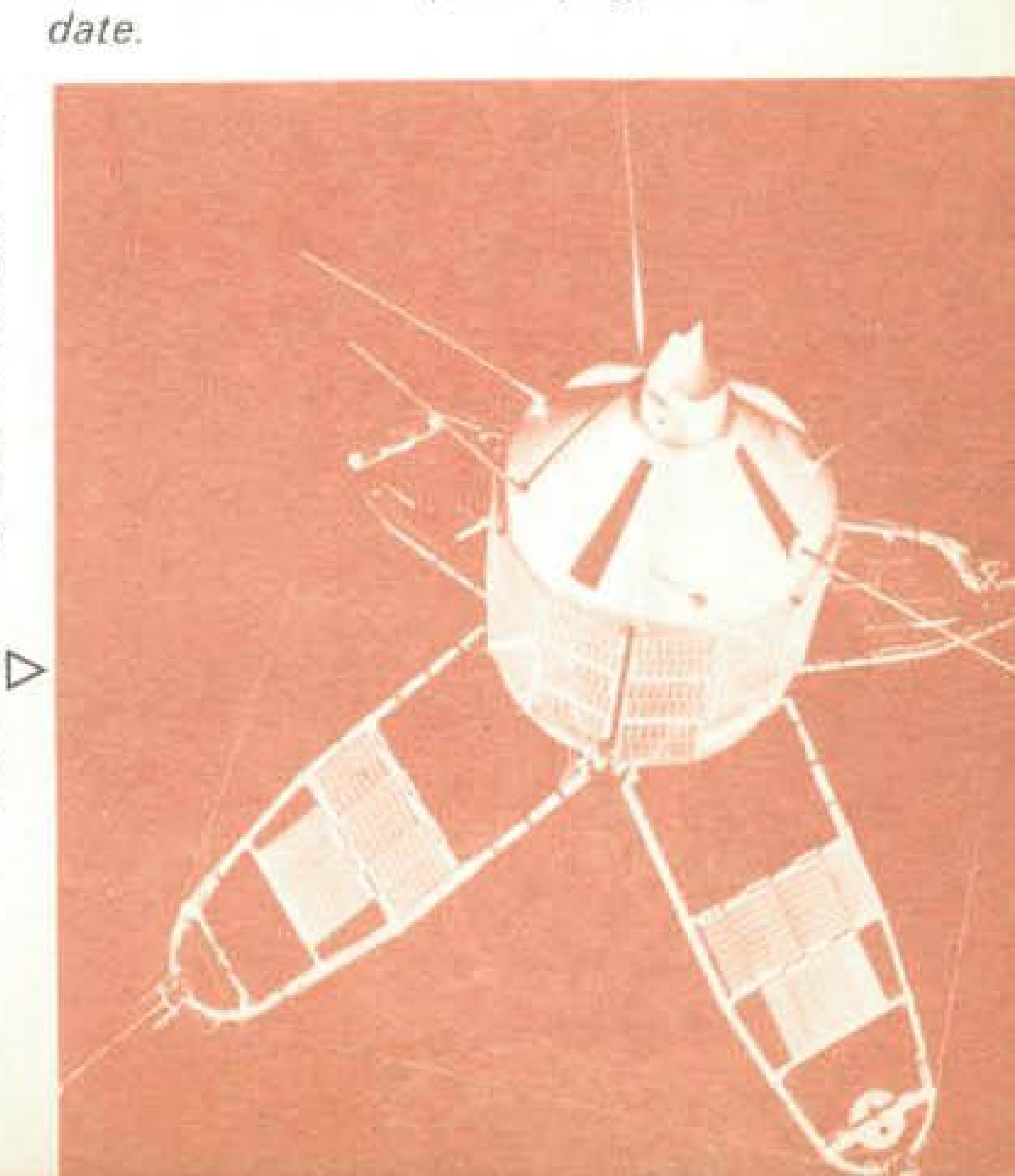
When the scientists are quite satisfied, then comes the big bang! And each time a new rocket or satellite flashes upwards, the future potential of Space in serving human needs becomes greater.

◁ *This photograph shows the launching of a Skylark rocket by the European Space Research Organisation from their range near Kiruna in North Sweden. Skylark is one of the largest and most successful of the world's high altitude research sounding rockets; with the addition of a control unit it can be accurately stabilised in flight by pointing at the sun, moon or stars.*



The Black Arrow X-3 Technological Satellite is one of a series of technological satellites to be launched by Black Arrow vehicles from the Woomera Test Range in South Australia in 1971. The photograph shows the structural development model being prepared for environmental testing at the Bristol facility of the British Aircraft Corporation. Testing comprises vibration, centrifuge and angular acceleration to stimulate the whole range of launch and orbital environments.

HEOS-A1 Space Probe, the European Space Research Organisation's most ambitious space project to date.



The UK-4 Scientific Satellite – the fourth satellite in the Ariel series, which will be named Ariel IV after its launch – will be launched in 1971 by a NASA Scout rocket. ▷

SPACE DICTIONARY

ABLATION
The losing of heat by vaporising or melting as in the use of ablative heat shield during Apollo's re-entry into Earth's atmosphere.

ANTENNA
Aerial for transmitting and receiving radio or radar signals.

ATTITUDE CONTROL SYSTEM (ACS)
System that turns and maintains a spacecraft in a required direction.

BIO-PHYSICS
The medical science for studying the effects of spaceflight on the human body.

BIOSENSORS
Small devices attached to the skin of an astronaut which measure and record biomedical data, i.e. astronaut's temperature, heartbeats, respiration, etc.

BLUNT-END-FIRST
In conical spacecraft, positioning the craft so that the point of the cone faces backwards, flat base forwards.

BURNOUT
End of a period of thrust in a rocket vehicle.

CHECKOUT
Sequence of actions to examine readiness of a rocket or spacecraft for its tasks.

COASTING
Flight of a vehicle when the power has been cut off.

COMMAND MODULE (CM)
The compartment in a spacecraft containing the crew and main controls.

COMPLEX
Entire area of launch site.

DATA
Information.

DECOMPRESSION
Loss of pressure, as when a spacecraft is punctured.

DOCKING
Connecting two craft together in space.

ESCAPE VELOCITY
Speed required to escape from gravitational pull of a planet.

EXPLOSIVE BOLT
A bolt fitted with an explosive which, when detonated, destroys the bolt and causes two joined modules to separate.

G FORCE
Force equal to Earth gravity. Thus 6G equals six times Earth gravity.

LIFT-OFF
Vertical ascent from the ground performed by a rocket.

MONITOR
To keep track of. To observe a vehicle or its system during flight.

ORBITAL PERIOD
Time taken by a spacecraft to complete one orbit.

PARKING ORBIT
Orbit in which a spacecraft awaits the next phase of its mission.

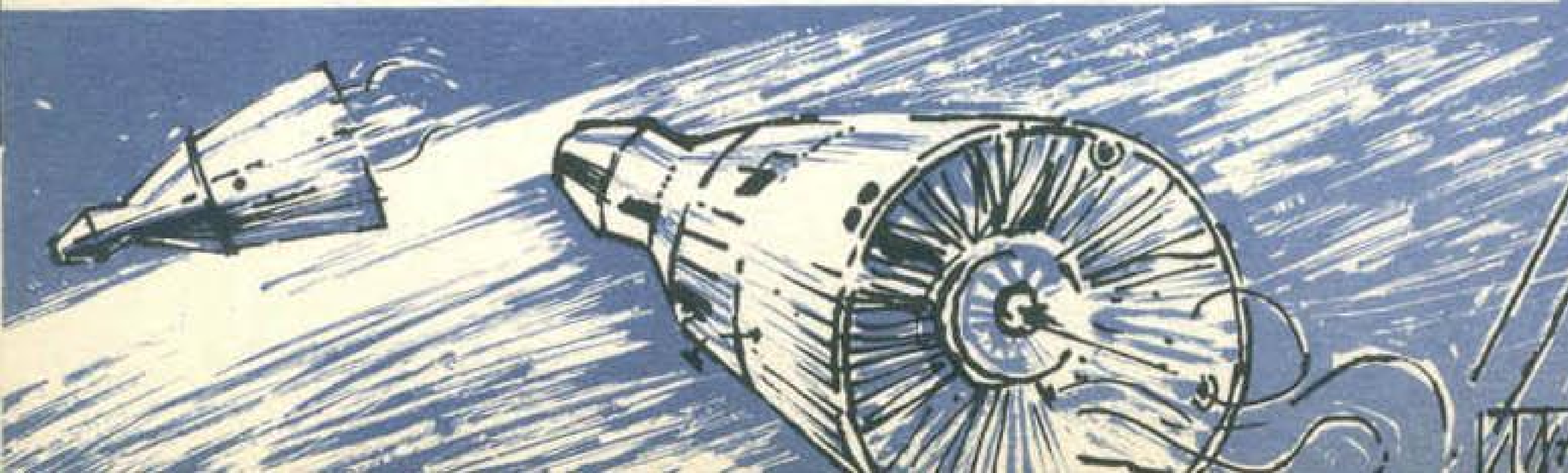
RADIO ASTRONOMY
Study of the stars by detection of radio waves instead of light.

RETRO ROCKET
Rocket fired to reduce forward motion of a spacecraft.

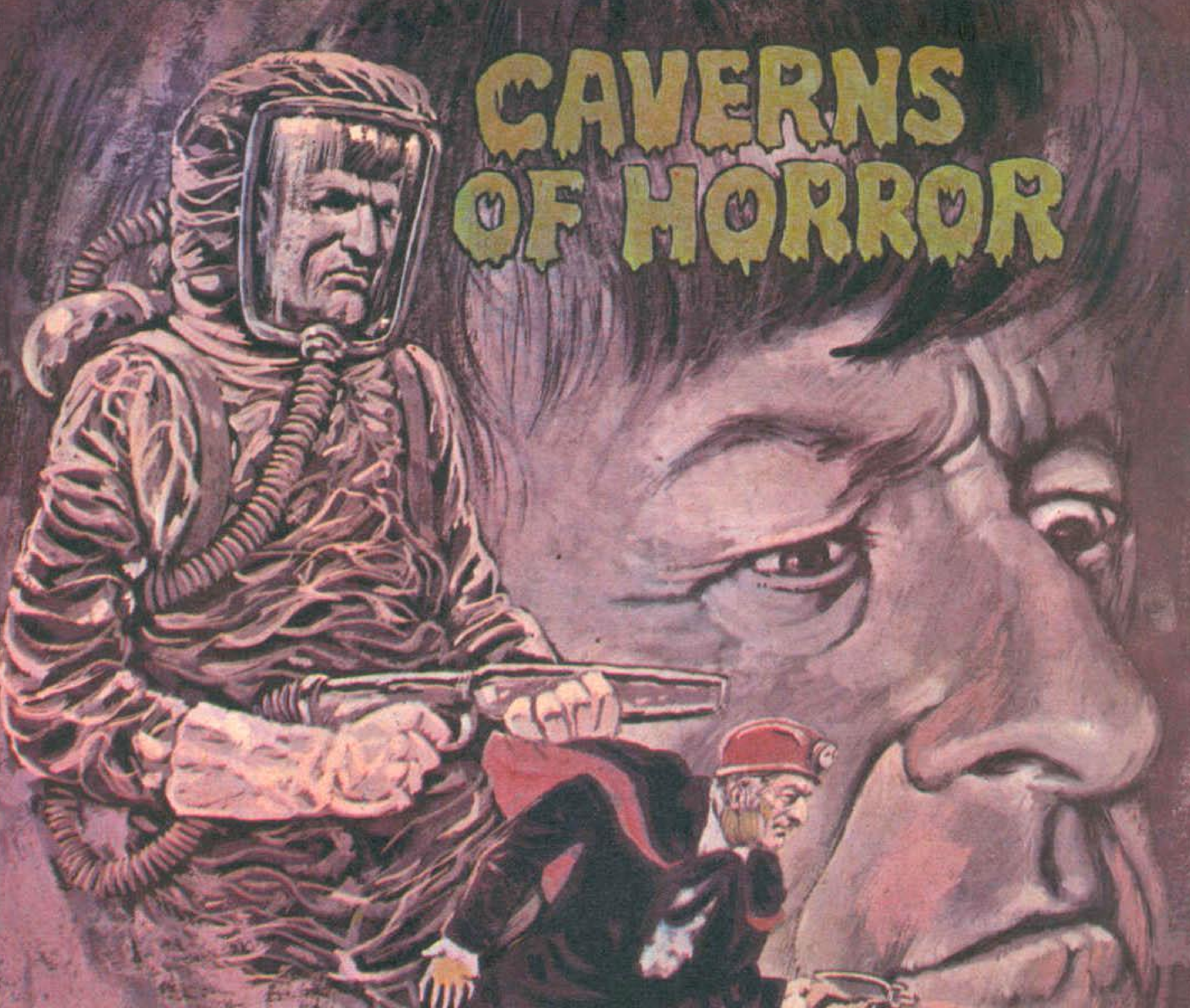
SOLAR CELL
Cell that converts sunlight into electrical energy.

SOLAR FLARE
An eruption on the Sun which produces bursts of very high radiation, dangerous to space travellers.

TELEMETRY
System for radioing across space information.



CAVERNS OF HORROR



SOMETHING had moved in one of the distant galleries and Doctor Who's pulse raced. But, in this enchanted place, it could only be a thing of beauty.

"Fairyland!" he muttered, as his entranced eyes swept over the wonders of the crystalline grottos into which they had penetrated. His gaze travelled slowly over the pinnacles and galleries of the crystal spires, glittering and coruscating with the colours of the rainbow.

"Phosphorescence!" mused the doctor. "Phosphorus, sodium, maybe even radioactivity." His wrist geiger was ticking. "It *is* radioactive! This could be dangerous. But, Liz, did you ever see such a magnificent scene?"

Liz Shaw stared round her and, in spite of herself, her shoulders shook. "I feel as though someone is walking across my grave, Doctor. This place is eerie; it just should not be. We must be three hundred feet below ground. Hadn't we better get back to the others? You know the Brigadier did say we all ought to stay together, with no straying."

"Pooh!" sniffed the doctor. "That fellow! Just a soldier, hidebound and stubborn. Mind you, he's mending. I've got to say that. He is absorbing some at least of our ideas without too much protest. We'll make a scientist out of him yet. Liz . . . what on earth was that?"

The sharp, staccato rattle of rifle-fire came to their ears, not faintly, but echoing loudly through that crystal cavern.

"Shooting!" jerked the doctor. "Some of Lethbridge-Stewart's trigger-happy band, I'll wager. Rifle fire down in a place like this could be dangerous. The repercussions of the sound waves could disturb these stalactites and stalagmites—by jove—" He stopped as a sliver of the crystal dropped with a crack on to his arm. His geiger's click changed to a chatter. "We must get back and put a stop to this sharp-shooting. Can't have this fairy cavern coming down about our ears, can we? But I thought I saw movement over there. Did you, Liz?"

"No, what was it like? A human figure? That sentry could be correct. He did swear he saw a moving thing at the far entrance an hour ago. Couldn't describe it . . . you remember his eyes, though. He's now in sick-bay back at headquarters, not speaking yet, I'm told. It happened just after that last earth tremor we got on the seismograph."

"There were three of those quakes, Liz," Doctor Who pointed out.

"But there can't be anything living down here, Doctor," Liz protested.

"And why not, pray? I know well that life will emerge, and persist in the most unlikely places and under the most unlikely conditions. I'm going down there to investigate that . . . that thing . . .whatever it is. You stay here and don't budge from this spot. If you move about in this maze of passages it's the easiest way of getting lost for ever."

Liz didn't like it one little bit, but she obeyed and watched as he went cautiously along the phosphorescent tunnel. She stood in the middle and kept on turning slowly round, trying to still the tumult of her heart. But even that did not save her from the attack.

It was like a shadow on the opposite crystalline wall, a shadow like a giant scaffolding in motion! She froze, her mouth dry, and a thin rod came out and touched her gently. It was long and jointed and . . . hairy! Her skin went cold and her heart seemed to stop. The rod tightened and a claw came out and gripped her arm.

The screams poured from her lips in a burst of sheer horror. All the loathing and revulsion in her being poured out in that screaming. For the rod was a tentacle and she was being pulled gently round to face the owner. And face it she found she just could not. One tiny glimpse was enough. It was too horrible, too ghastly and otherworldly. In the few seconds before her consciousness left her she got a terrifying hint of a thin, complicated body structure, gleaming in the faint glow, with innumerable waving limbs and a great globular head, black and shining, with huge compound eyes which looked upon the prey held in its tentacles. But there was not, nor ever could be, any expression whatsoever in those alien eyes.

His torch winking and his boots clanging, Doctor Who came back in a very great hurry. That screaming had echoed and re-echoed through all the caverns and he had immediately turned back. He saw the great, gaunt scaffolding of the titanic thing holding Liz and his laser pistol went up and the tentacle was cut off. Liz seemed to be hanging motionless in the middle of an impossible network of feelers and limbs and tentacles.

Did he dare to risk raying the head with his laser? He might laser the girl herself!

What was this thing? It looked something like a giant grasshopper or a praying mantis . . . or . . . but no; no insect in creation was as big as this monster.

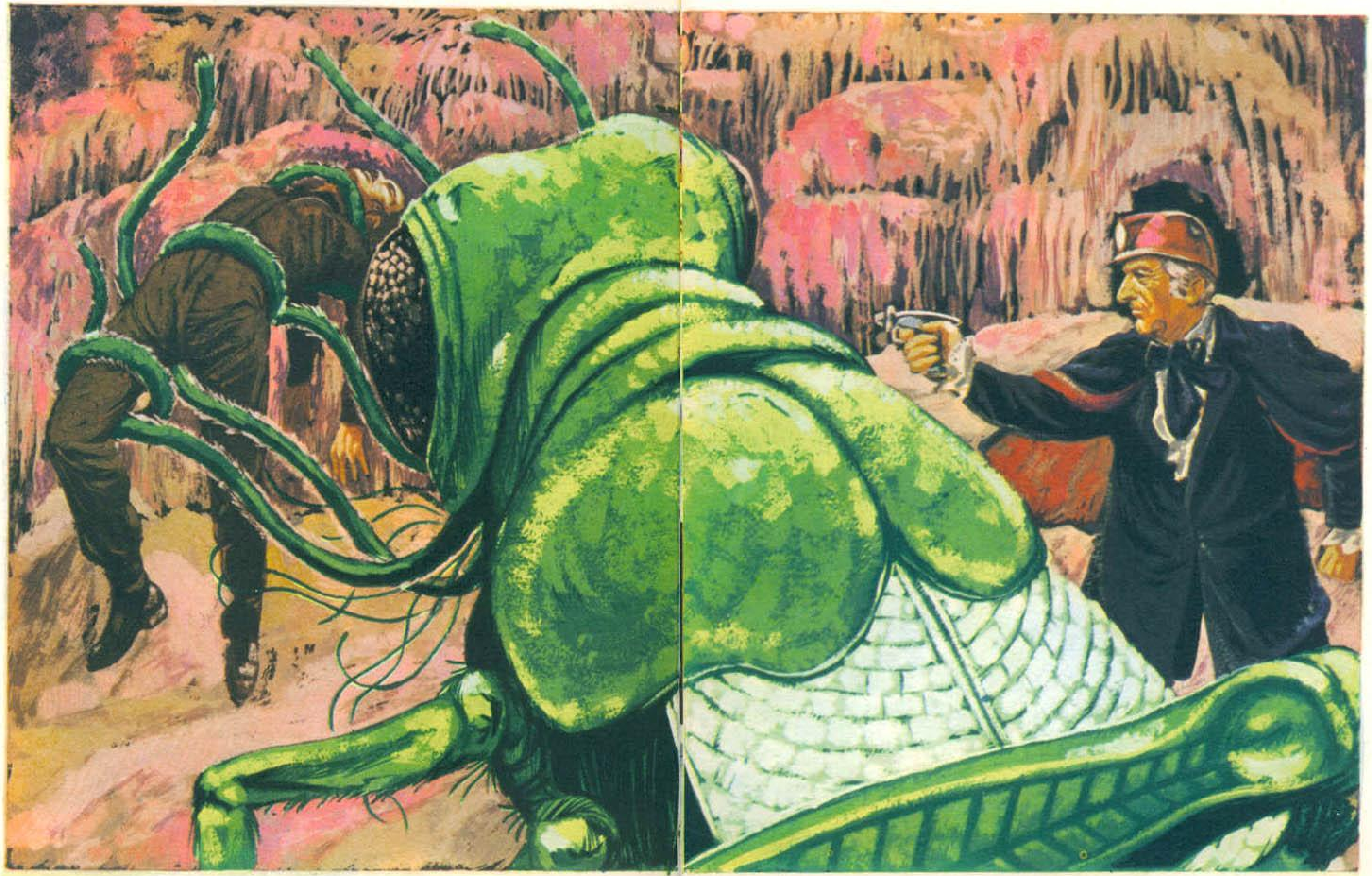
The complex moved, with the jerky, spasmodic movements of the true insect, now magnified a thousandfold.

Liz slipped to the floor and the scaffolding moved. Antennae waving, the enormous head moved back as it retreated from his torch and the laser.

The doctor darted forward swiftly.

He took her in his arms and glowered round him. The thing had gone now, rustling and rattling like a bundle of canes up that narrow passage, so they could not go that way. There was left at this point only the tunnel along which he might find the Brigadier and his party.

The place, so far beneath ground, seemed to be a very warren of tunnels leading off in all directions from the main tunnel, and each time he passed an intersection, he expected to see one of the strange insects emerging to attack. For, if he knew insects, he knew that where there was one there would be many myriads more of the loathsome things.



Neptune is so far away from the sun - 2,794 million miles - that it is nearly as cold as the absolute cold of outer space. A day on Neptune is approximately 15 hours; a year is equal to 165 years on Earth.

The UNIT Commander was holding a rough paper map under a torch held by a soldier when the doctor came up. He frowned when he saw the unconscious figure of Liz Shaw.

Breathing heavily, Doctor Who laid her down.

"Another attack?" snapped Lethbridge-Stewart. "I've lost a corporal up that far tunnel. He went up, against orders, said he'd heard a rustling sound. We heard a burst of shots and then silence. A scouting party went up and found no trace of the man this side of a rock-slide which had closed the end of that tunnel. What about Miss Shaw?"

"You wouldn't believe it, Brigadier," grinned Doctor Who. "She's been frightened by an *insect*!"

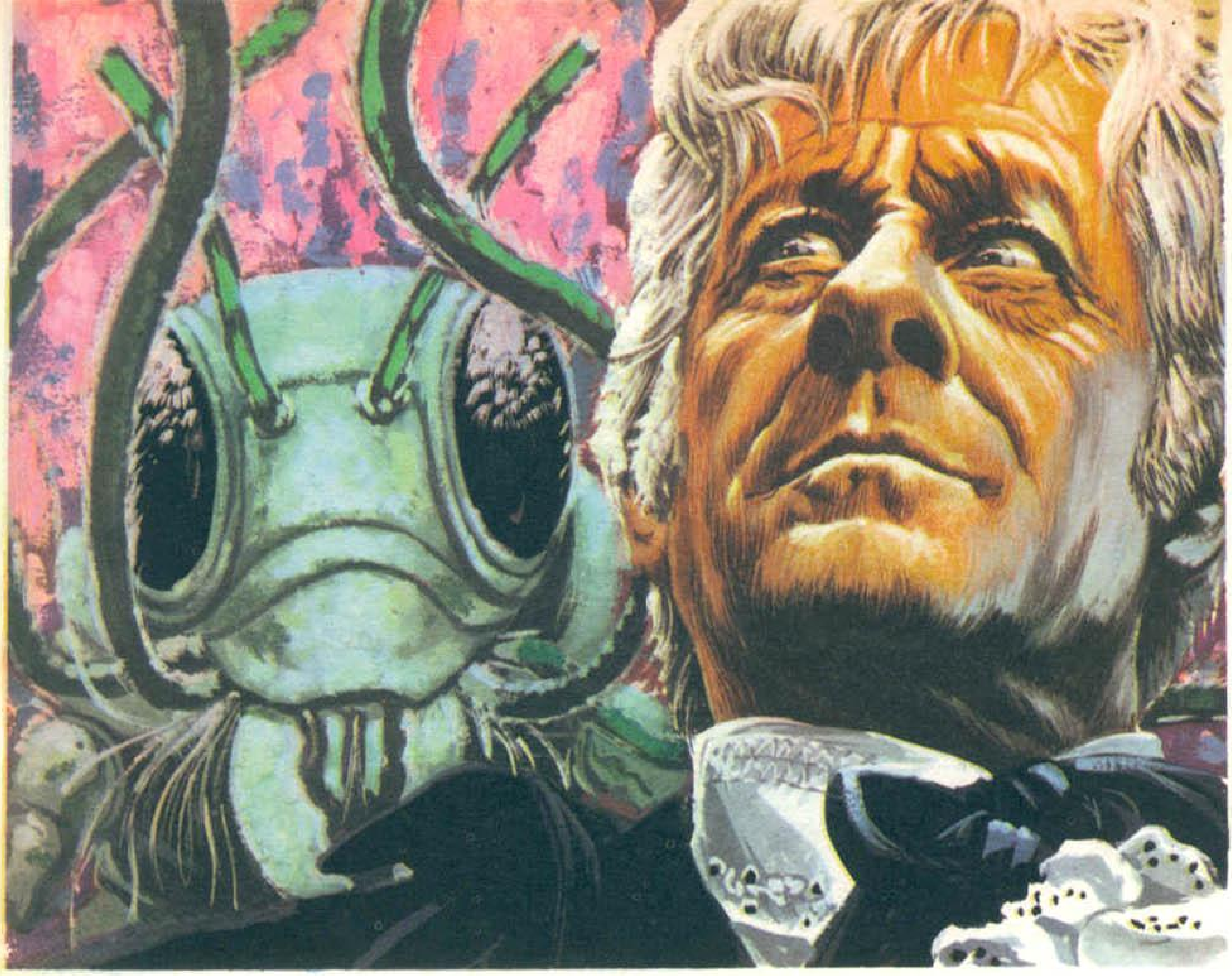
"This is scarcely the time for joking, Doctor," said the other stiffly.

"Oh, I'm not joking, believe you me. This insect wasn't tiny, sir. I know you won't believe me so I'll keep the story for later. You said something about a rock-fall—that's where you must look for your lost man."

"Look here, man," said the Brigadier testily. "Only that fantastic tale of earth tremors brought me down here. You had some cock-and-bull story about living things down here. Gigantic rabbits, I suppose." He gave a cynical laugh.

"If only it was that old big White Rabbit out of *Alice in Wonderland*," said the Doctor with a shake of his shoulders, "I'd be quite happy. Well, sir, do we explore that rock-slide together or do I go alone?"

"You really think there is something living down here?" persisted the Brigadier. "Something that might be dangerous to us?"



"To all vegetable life of Earth, Brigadier, on which in turn all human life ultimately depends," said the scientist seriously. "Have you any idea of the enormous amount of vegetation that insects consume while they are tiny? Can you imagine what they would eat if they were able to grow to, say, ten feet long, through induced mutation over hundreds of years by the natural radio-activity of these caverns?"

"We'll all go to the rock-slide, Doctor," said the other resignedly. "I am in no mood for arguments on that level. Please lead the way."

"Leave two men with Liz. She isn't going to be much use. By the way, how's your standing with Army Chemical Warfare? Any friends there?"

Lethbridge-Stewart stiffened. "The normal channels would provide me with all services that might be necessary in that line. At my Command Headquarters on the surface I have, as a matter of fact, several D.D.T. sprayers."

"Then send a few of your lads up for them. But not D.D.T. Tell 'em to get something much more deadly, cyanide gas for choice. Gasmasks all round and as many radiation suits as you can scrounge."

"What *is* all this, Doctor?" snapped the Brigadier, as they walked slowly and as quietly as possible along the tunnel up which Doctor Who had seen that weird monstrosity depart.

They came to the mound of fallen rocks filling in the tunnel and the doctor spoke to the soldiers. "We'll want an opening made in the top of that pile, lads. You can see it's freshly made, not many hours old. I have to see what's beyond there."

"I have the utmost objection to you taking over my men," protested the Chief. "I will give the orders here, if you don't mind."

"Very well, get on with it," said the doctor irritably. "When they have a hole big enough for a thin man — no larger — I'm going through."

Then the hole was ready and he clambered up. He shone his torch into the black hole and saw, as he expected, that the tunnel beyond was clear. He went on through, and scrambled down the hill of rock on the further side.

He could hear creaking and rustling noises up ahead and he was reminded of nothing so much as the sound of locusts. His blood chilled at the thought. Momentarily he saw a vision of a cloud of locusts, each ten feet long, emerging from this warren of nests, multiplying and feeding upon the growing things of Earth. The planet would be stripped of all green life inside a month, and death by starvation would overwhelm Earth's millions!

He reeled from powerful emotion, at the thought of the possibilities, so that they took him quickly and suddenly, one from each of two side tunnels that intersected. In an instant he was totally helpless in what was a veritable tangle of hairy tentacles. The thin members were surprisingly hard and horny, like bamboo canes. There were more of the things, crowds of them jostling as they ran, and they were heading towards what seemed a lighted place.

Would this be the hive? Were these creatures hive-dwellers or not?

It was their preposterous size that baffled him. Ant, locust, mantis, grasshopper, what on earth were they? Could they perhaps be some new species, so far unknown to surface mankind, which had survived and bred and grown to titanic proportions down here in these radio-active labyrinths? They could not, of course, be intelligent. That was out of the question! Or—was it?

His brain froze as he recalled how they had captured him. Was that the blind, instinctive groping of a brute thing or—was it intelligence? But then, who had ever denied intelligence, of a sort unknown to thinking mammalian mankind, to the insect world, this world forever apart from the mainstream of animal life?

He gripped the laser but held its fire. Danger of the most hideous kind held him in its talons but he must, for his very life he must, see more of what was going on below.

They bore him to a warren of shallow niches and in each lay a mummy! At least that is what he thought they were. Shrivelled and grey they looked, like long spindles, and from one or another crawled a miniature of his captors. They were grey figures of multiple tentacles, about two feet long, damp and feeble, their many limbs waving ineffectually.

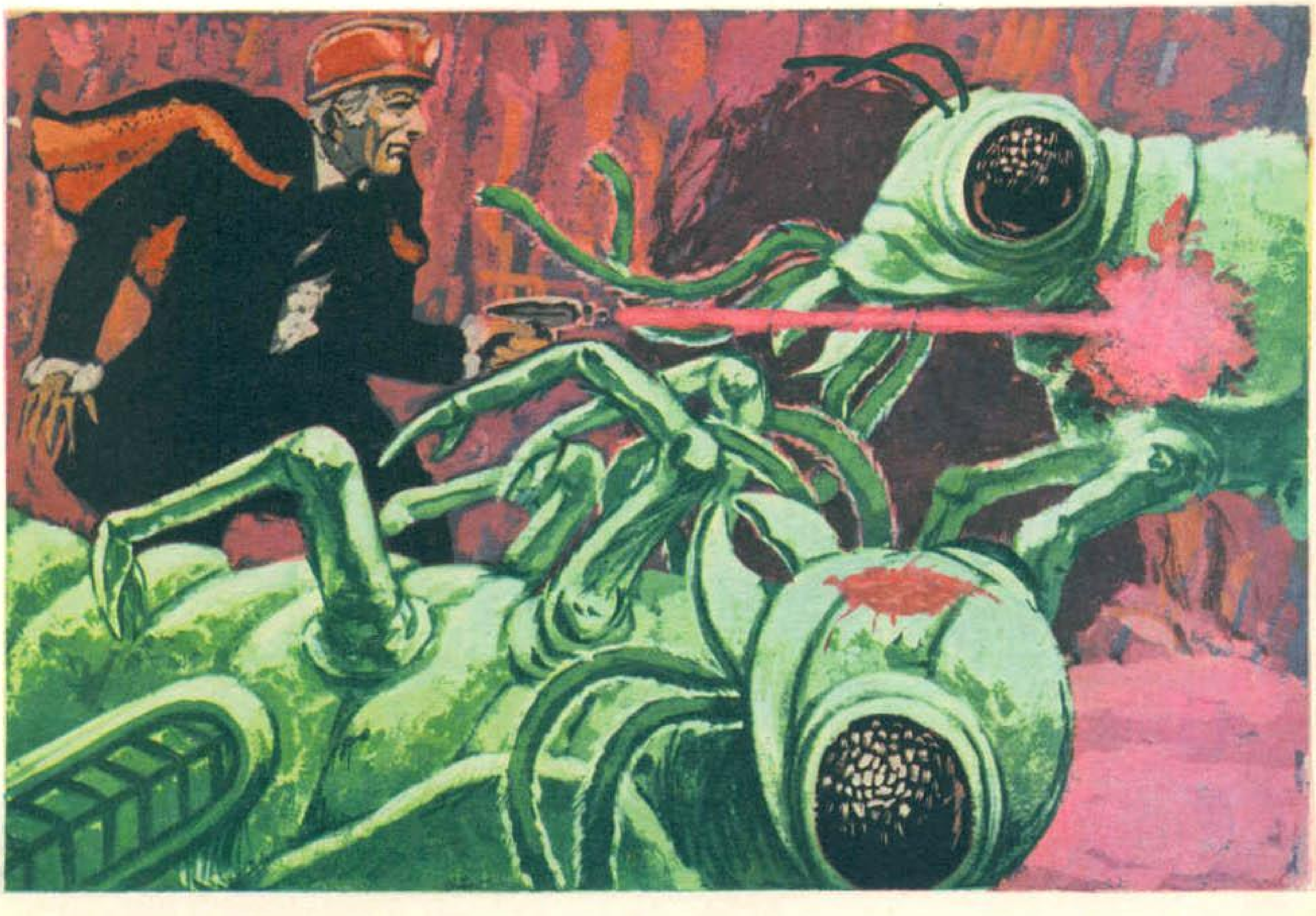
He was put into an empty niche and by now he was almost fainting. The closeness, the stifling heat and the dreadful stench of almost overpowering formic acid and a thousand other indescribable smells, nearly suffocated him. But he held grimly to consciousness and to his laser and he waited.

They came, two of them, vast, nightmare structures of chitin and glowing compound eyes. A small black bundle was in their tentacles and this they placed on the stomach of the prisoner. Then two tubes appeared from the vast complexities of their bodies and from it a thin, grey, cement-like fluid poured over the black bundle.

Then something cracked in Doctor Who's mind.

With a howl of inexpressible horror he leaped to his feet, his arms and legs thrashing, and he tore the loathsome thing from his body. Laser beams were weaving swift patterns all around him, patterns of flaring incandescence which beat across the networks of the hundreds of limbs and tentacles around him; he raged through their massed bodies. His mind was almost stunned by the sheer grisly horror of what those two had been doing to him. He had prayed that these monstrosities might not be intelligent, in a way humans could know. But any intelligence of that sort would have been better than the purely instinctive animal action those creatures had carried out.

Sobbing and gibbering, he went on, his laser burning a pathway through those hordes of giant nightmares until he won his way to the rock-slide again. He plunged through and saw the torches, the



gasmasks and the radiation suits of the soldiers. He fell sobbing into the arms of Brigadier Lethbridge-Stewart.

"What is it, Doctor?" said the UNIT Commander, lowering his faceplate. "We have three sprayers and a few cylinders of cyanogen—risked my commission for that. Do we need it?"

Doctor Who leaped up and pointed. "Pump that hole as full of cyanide as you can. Then get some more; get more men. All these tunnels must be traced and flooded with poison. Each tunnel must be blown up, there must not be the smallest chance of any living thing surviving. I said locusts, Brigadier. Locusts would be mild compared to those things."

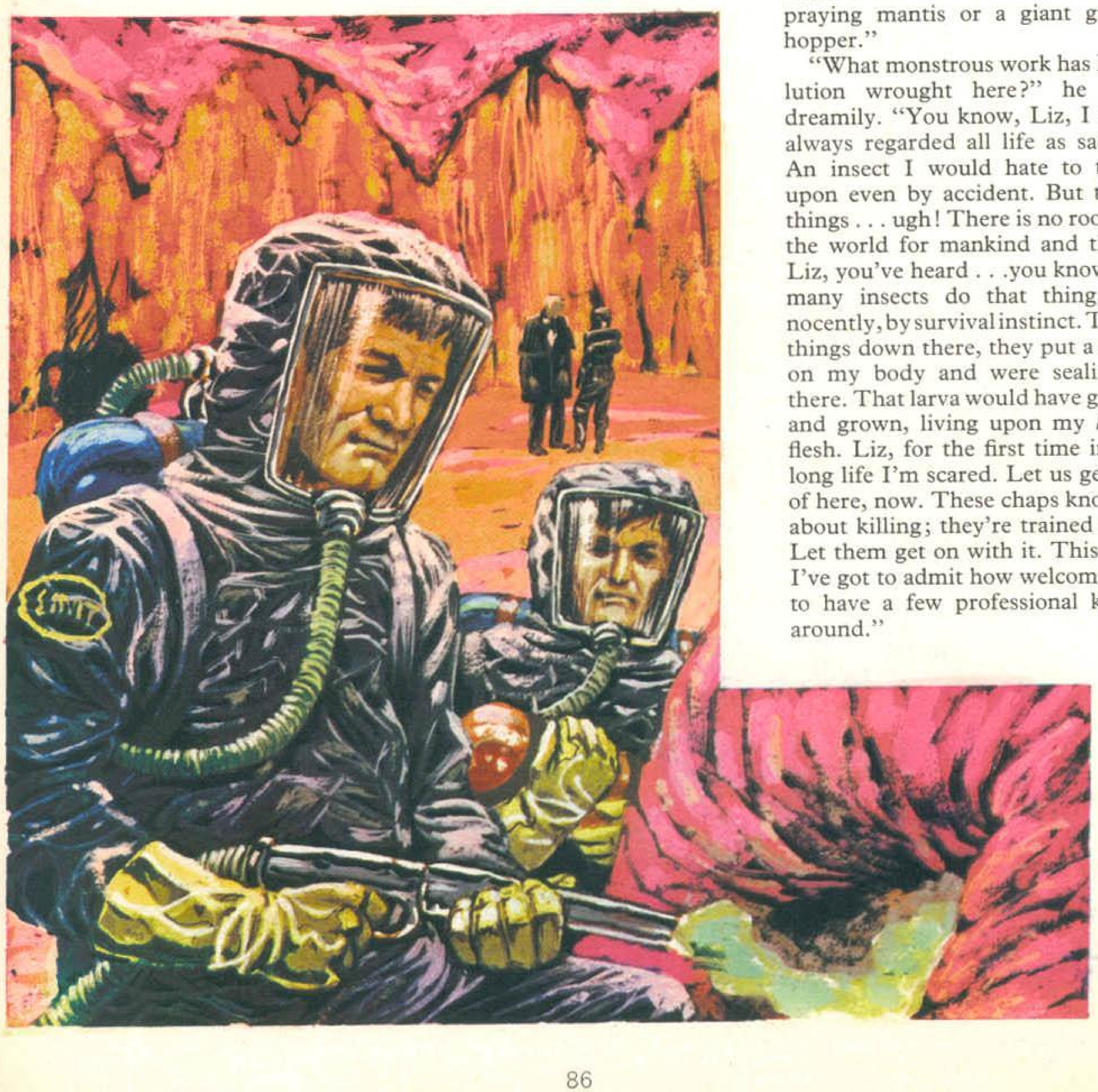
He turned to a radiation-suited Liz Shaw. "Liz, there you are, thank heaven they didn't get you. It was only that I knew, I *knew* what they were doing." He reeled where he stood and she laid him down. A soldier produced first aid and she bathed his forehead.

The fire and the life seemed to have gone out of him. He watched as the sprayers worked, climbing up and pumping the deadly gases into the hole. "Tell them," he muttered, "to be sure to find every single rock-slide in here. That's where they are. There were three tremors. This one blocked this road. There could be others somewhere that could have opened up their runs. Every last one of those foul things must be destroyed."

From the small share of sunshine actually intercepted by the earth, it is possible to calculate the entire output of solar energy in all directions. The sun shines with a constant power of 380 billion watts.

"What *are* they, Doctor?" she wanted to know. "I saw . . . I saw part of one of them when you rescued me. It reminded me of a praying mantis or a giant grass-hopper."

"What monstrous work has Evolution wrought here?" he said dreamily. "You know, Liz, I have always regarded all life as sacred. An insect I would hate to tread upon even by accident. But those things . . . ugh! There is no room in the world for mankind and them. Liz, you've heard . . .you know . . . many insects do that thing, innocently, by survival instinct. Those things down there, they put a larva on my body and were sealing it there. That larva would have grown and grown, living upon my *living* flesh. Liz, for the first time in my long life I'm scared. Let us get out of here, now. These chaps know all about killing; they're trained to it. Let them get on with it. This time I've got to admit how welcome it is to have a few professional killers around."



A UNIVERSE CALLED FRED

"I CAN feel it," said Doctor Who. "I can feel it—in my bones, maybe. From my long and far wanderings I have a sixth sense which tells me whenever life, in any of its forms, is manifesting itself. I'm getting impulses, from right here, in this laboratory. And it isn't any of us here. It isn't human in the sense we usually mean."

Brigadier Lethbridge-Stewart looked up from his papers and frowned. The doctor and Liz Shaw were standing in front of a laboratory bench on which the usual display of glassware was arrayed. What now, thought the cynical Chief of United Nations Intelligence Task-Force?

Doctor Who swept his scarlet-lined cloak around him and began to pace up and down the big room. His long, thin figure looked like a pair of dividers in motion and the Brigadier laughed tolerantly.

"We can do it if we have three good men, Liz," the doctor said at last. "We'll need a highly-skilled electronics man, an expert in printed circuits, and a microscopist. Will you lay that on, Brigadier, please?"

"Certainly," said Lethbridge-Stewart sarcastically. "Take my whole force. We are, after all, just a rather special detachment of the Army, detailed to carry out your every whim."

"I'm glad that is at last understood, sir," said Doctor Who, staring owlishly at the soldier.

"What's the job, Doctor?" asked Liz, smiling at this pair of silly men.

"The sub-space radio, of course," the doctor replied. "The principle is fairly simple. You just bypass the electro-magnetic waves and bend your impulses round the stresses and tensions in the sub-space warps. Difficult to some, but I've managed it myself on one or two occasions before."

"Then why haven't you got one of these marvellous sub-space thingummy's now?" asked the UNIT Commander sardonically.

Doctor Who grinned sheepishly. "The last one I made got out of my control and actually slipped through the folds between the dimensions, under full power. I'm afraid one or two space-time universes would be disrupted by that."

"Very well," said Liz resignedly, aware of the impossibility of pinning this strange man, half towering scientific genius and half elf, down to anything ordinary. "I'm sure you'll have all the specifications handy?"

"In here, dear girl, in here," beamed Doctor Who, and he tapped his head.

"You see, Liz," said Doctor Who two days later, "someone or something inside this laboratory is trying to communicate with us!"

She looked amused. "Maybe the germs in that frozen culture we have from the fifth moon of Jupiter?" she suggested gently.

He didn't even smile.

"No," he said absently. "It's from a little to the left of that one. The large chap there, that round one, like a goldfish bowl."

"But it's empty, Doctor," she burst out. "Really! Are you beginning to hear things, buzzes in your ears, possibly indigestion?"

"No! No!" said Doctor Who severely. "Not funny, Liz, not funny at all."

"Oh, dear," groaned Liz, and the Brigadier, coming in just then, smiled. The odd pair he was saddled with were at it again.

The weird form of radio was completed round midnight and Doctor Who and Liz Shaw were alone when he finally switched it on.

"You see, the principle is this. You know of *outer* space? Well, this gadget is for communication with *inner* space. That is, with probable worlds of sub-atomic size, worlds as small as electrons, revolving at enormous speeds in planetary orbits round nuclei. Normal electromagnetic rays are far, far too long. We need sub-microscopic energy impulses to get down to that order of magnitude."

"But that's all nonsense, Doctor," laughed Liz. "Electrons aren't *worlds!* They are the basic building materials of the universe."

"Infinity exists downwards and inwards, as well as upwards and outwards, Liz," grinned Doctor Who. "Remind me some time to give you a complete rundown on all the possible and probable meanings of Infinity. No time now, every second counts. If what I feel is true, several *generations* will have passed down there while we've been tinkering with this thing. Let me see, that is the gain and this is the capacitator . . . ah, yes. Now, the waveband—"

"Doctor," burst in Liz, "you just cannot believe that beings living on those imaginary electron worlds of yours are trying to *talk* to us?"

"Hist!" warned the doctor. "Coming through now. Not a word and not a move. The setting is so fine, a breath might disturb it."

Headphones over ears, he listened, and his face remained totally enigmatic. After five minutes he took the phones from his head and sat motionless, staring into vacancy.

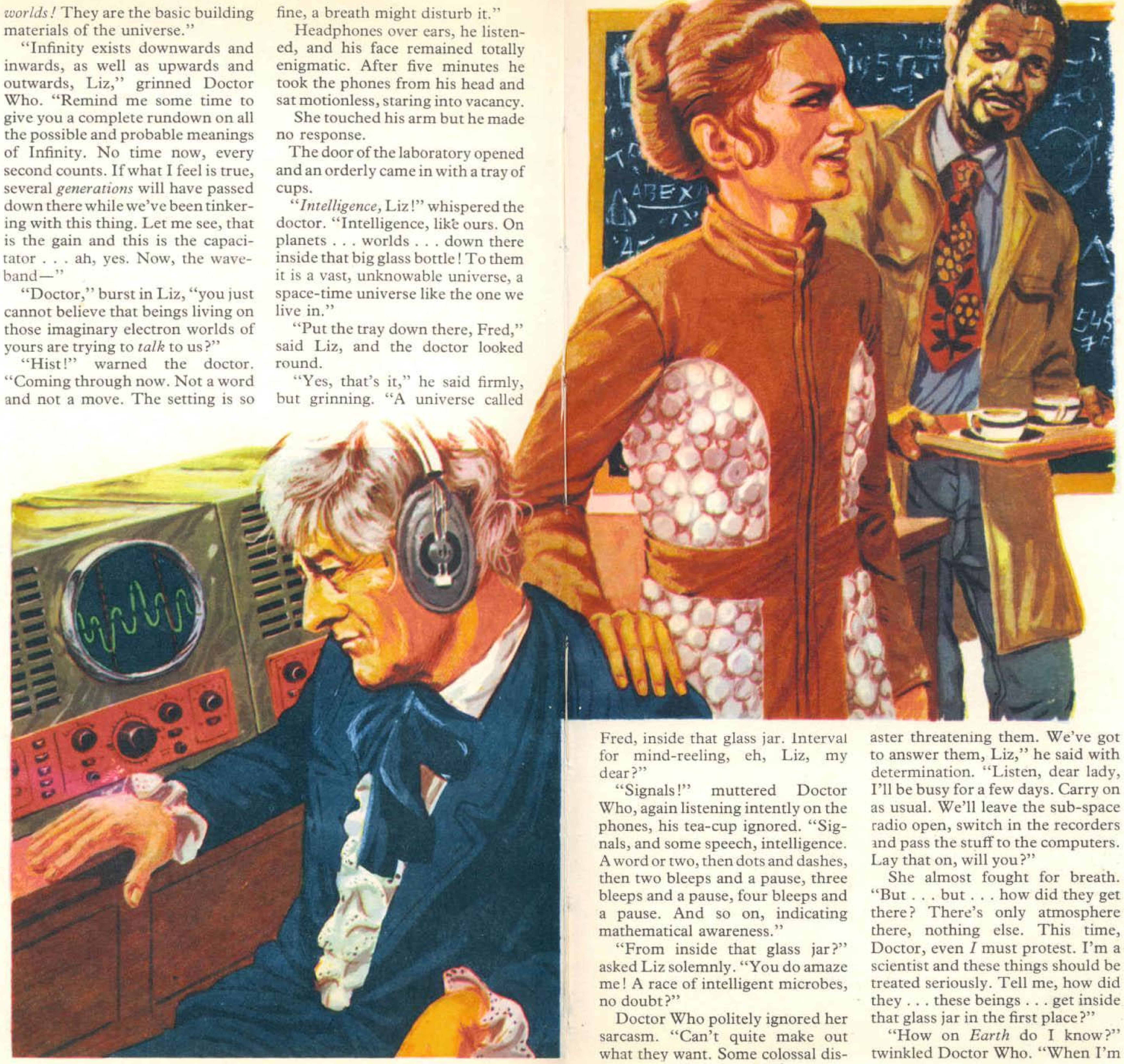
She touched his arm but he made no response.

The door of the laboratory opened and an orderly came in with a tray of cups.

"*Intelligence,* Liz!" whispered the doctor. "Intelligence, like ours. On planets . . . worlds . . . down there inside that big glass bottle! To them it is a vast, unknowable universe, a space-time universe like the one we live in."

"Put the tray down there, Fred," said Liz, and the doctor looked round.

"Yes, that's it," he said firmly, but grinning. "A universe called Fred, inside that glass jar. Interval for mind-reeling, eh, Liz, my dear?"



"Signals!" muttered Doctor Who, again listening intently on the phones, his tea-cup ignored. "Signals, and some speech, intelligence. A word or two, then dots and dashes, then two bleeps and a pause, three bleeps and a pause, four bleeps and a pause. And so on, indicating mathematical awareness."

"From inside that glass jar?" asked Liz solemnly. "You do amaze me! A race of intelligent microbes, no doubt?"

Doctor Who politely ignored her sarcasm. "Can't quite make out what they want. Some colossal disaster threatening them. We've got to answer them, Liz," he said with determination. "Listen, dear lady, I'll be busy for a few days. Carry on as usual. We'll leave the sub-space radio open, switch in the recorders and pass the stuff to the computers. Lay that on, will you?"

She almost fought for breath. "But . . . but . . . how did they get there? There's only atmosphere there, nothing else. This time, Doctor, even *I* must protest. I'm a scientist and these things should be treated seriously. Tell me, how did they . . . these beings . . . get inside that glass jar in the first place?"

"How on *Earth* do I know?" twinkled Doctor Who. "When I'm inside that jar maybe I will. How did *we* get where *we* are? How did the Solar System, the universe we see and know, get where it is? It's always been here, you'll say. For millions of years, yes. But . . . what is outside *this* universe? Tell me that."

They were alone at midnight two days later when Doctor Who told Liz just what he intended to do.

"You've read *Alice in Wonderland*, of course, my dear? You'll remember those little bottles. The one that made Alice grow and the one that made her shrink. I am going to shrink, but infinitely smaller than Alice did. I am going down there to that sub-microscopic world."

He showed her the belt around his waist, and he was connecting wires from it to the sub-space radio. She stared at him in disbelief.

"This belt is a modification of the sub-space radio," he went on, "and it is keyed into the impulses from that. What I find when I get down there, if I do get down there, I cannot know. Tell the Brigadier I've had to go away somewhere. The car is outside. If I don't come back, it's yours, Liz."

She looked at him. What would life in UNIT be without this man, whose mind leaped the chasms of creation and the universe and the infinite?

"It'll be no use to me, Doctor," she said calmly. "I won't be here, either. I'm coming with you, wherever it is."

"Couldn't dream of exposing you, my dear," he replied firmly, but he was already rummaging in a drawer of the table. "When . . . if . . . I come back . . ."

"You made another one of those things," she cried, and she grabbed it. "Not a word now, I'm coming. We've faced enough monsters and ogres together that I cannot let you go alone."

Doctor Who was mute before her determination. Should he risk her in this fantastic expedition? But two were so much better than one. They had, as she had said, been through some incredible situations together . . . He made his decision as she buckled the belt round her waist and began to copy his connections of the wires. And it was she who finally switched on the new lever he had incorporated into the radio during his two-day tinkering with it.

He felt a terrible, squeezing sensation in every atom, the laboratory vanished and he was in darkness, alone. All he could feel was the grip of her hand as they went down together into the abyss of the sub-atomic cosmos.

The light blazed all round them and they were on a mountain-top. The sky was black and sprinkled with myriads of stars. One great star shone blue and baleful on the horizon, a blue monster as large as Earth's moon.

That it was a true star they knew from the intolerable heat.

"That's a blue dwarf star, Liz," said the doctor tensely. "What a world this must be! How can life persist under the radiations from a giant like this? It *must* be a giant, Liz, many millions of miles away as yet. But . . . coming closer every day and month and year."

"What is this place, Doctor?" she murmured. "Where are we? Where have those belts thrown us? I'm afraid, Doctor, terribly afraid. How are we going to get back to Earth? Where is Earth? Where is the sun?"

"There is the sun," said Doctor Who, and he pointed to the opposite horizon from the one in which the blue star blazed. A small yellow sun was rising above the horizon. "There is the natural sun of this world, Liz. The blue devil is an intruder, a rogue, a runaway star. Far too close to this world for life to persist for very long. Liz, is this the menace they were trying to tell me about on that radio?"

"Maybe we'll know before so very long, Doctor," she said steadily. "We aren't going to be alone for very long. Look, down there."

Doctor Who stared down and saw coming up the slopes a mighty throng of beings. Too far away as yet to be distinguished, he could only tell from their general shape that they looked somehow human. But . . . they were not walking, or climbing. They were flying!

The wings from their backs could be seen plainly now. Large and sweeping, like the wings of a bat, pink in colour. And then the sound of the wings flapping could be heard.

"Stand firm, Liz," the doctor muttered. "They've seen us and they are coming. We will meet them with dignity and explain ourselves. It is just possible they will greet us like gods, you know? Do you fancy being a goddess, Liz? When we tell them where we've come from, they'll be convinced we are gods. What if giant beings suddenly appeared on the Earth we know?"

"We must be giants to these . . . these . . . beings," she muttered as the foremost of the flying beings landed around them. "They're only about three feet tall, and look, they have an eye at the back of their heads!"

"Useless for flying men," said the Doctor sagely. "This must be a very huge planet. People here would evolve smaller, of course, because of the greater pull of gravity. Well, this is it, Liz. Behave like a goddess."

But the crowd of flying beings gave no signs of falling on their knees and worshipping the newcomers. Instead, many strange-looking weapons could be seen in the hands of the first of them.

"Here are the magicians who have brought the blue sun to burn the world," came a host of cries, and many hands grabbed for them.

They struggled, but their assailants were far too many. They were held and one came forward.

He stood maybe four feet tall, a head above the others, and his face was dark. That this was due to the ultra-violet rays of the blue dwarf star the doctor guessed, as most of the others had faces which were beginning to darken. He held a weapon in his hand, a tube of mirrors that flashed in the strange two-colour sunlight from both the stars of this eerie world.

The newcomer raised a hand and the restraining hands fell away. He stared at the two and a frown darkened his face still more.

"Giants you may be," he began. "Magicians also, we must assume. Where have you come from and why are you here on this mountain?"

"Sixty-four thousand dollar questions indeed, if you like," said Doctor Who, wiping the sweat from his face. "Imagine what this fellow would think, and say, if I told him the truth, Liz?"

"Yet you expected *me* to believe all that nonsense about worlds inside glass jars," she retorted. "Get us out of this one, Doctor. These creatures look pretty dangerous to me. If these belts have a switch for the return journey, I'd press it without a moment's delay."

"But we haven't done what we came to do, Liz," said the doctor doggedly. "We can't get away from here as quickly as that. Besides . . ."

He stopped, deciding not to tell her that their return trip was very largely problematical. That sub-space radio still stood on the UNIT lab bench back on Earth. What if somebody tampered with it? He sweated a little more.

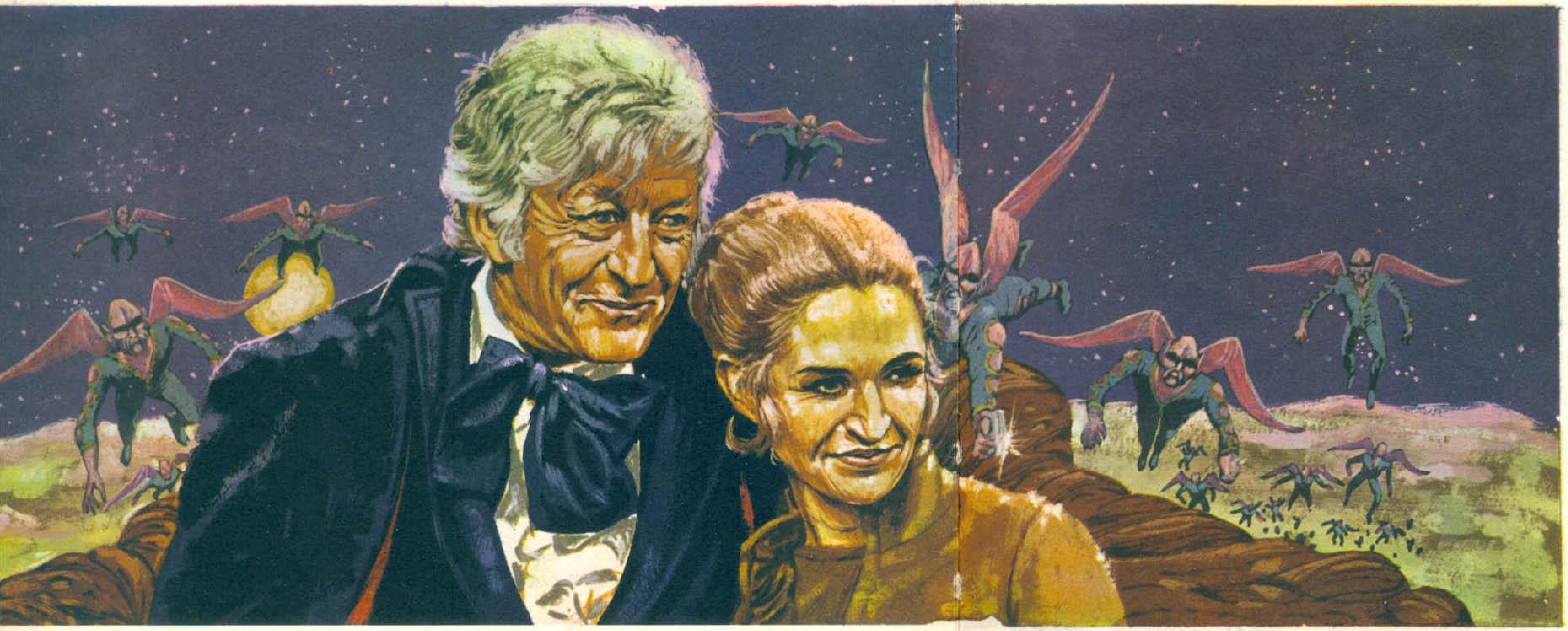
He turned to the winged man. The ruffled wings folded against the being's sides were deepening in colour to an angry red. The creature's eyes were flashing fiery impatience. He'd better deal with this fellow now.

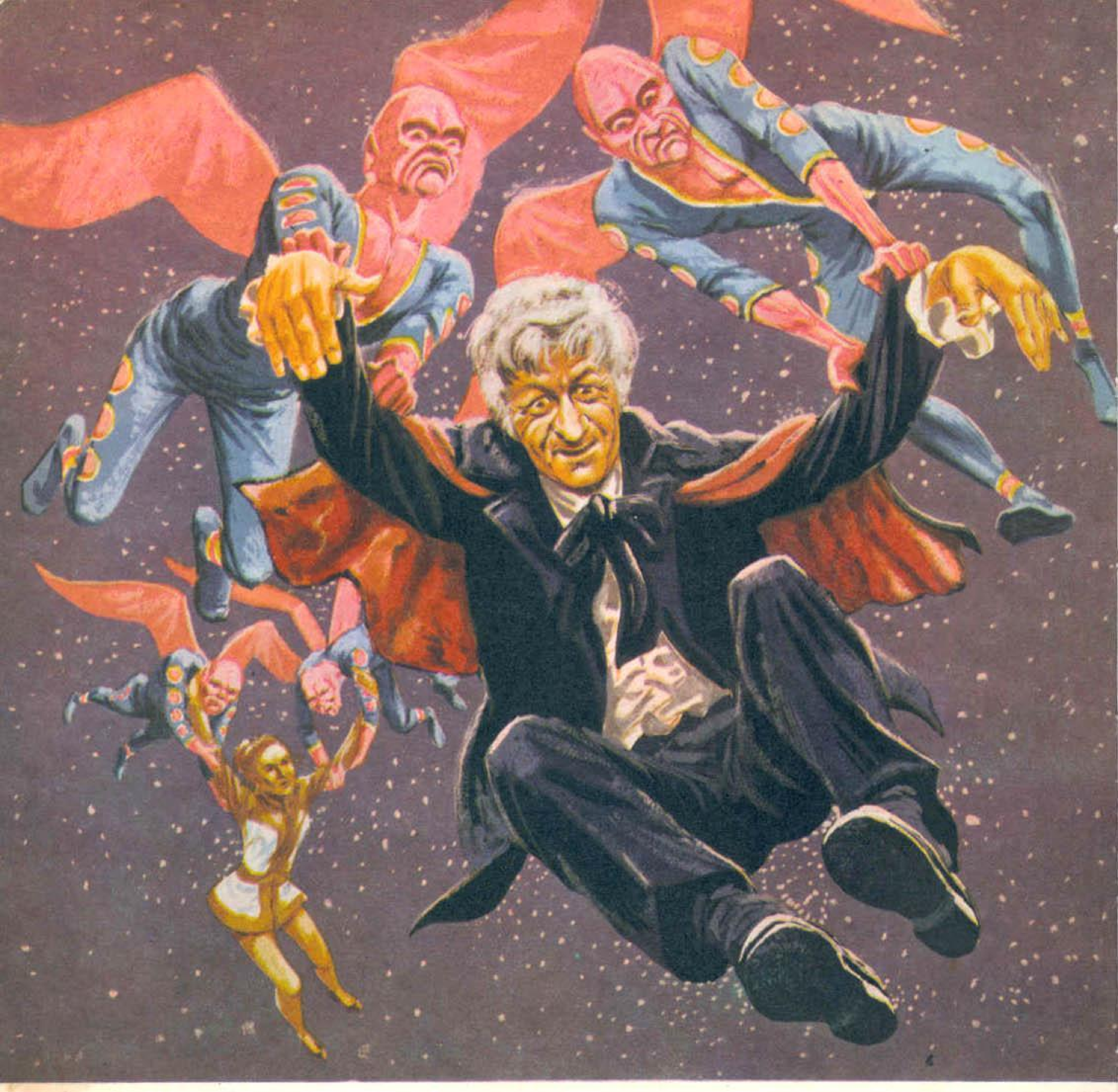
"We came down into your world," Dr. Who said with magnificent dignity, looking down on the creature benignly, "from a mighty world far, far outside your knowledge. We came out of your skies, to your world, in answer to your calls for help. What is this terrible menace that threatens you here?"

"A mad magician, eh?" said the other, curling his lip. "That we, the mighty race of Valerus, should call for help to such as you, makes me want to laugh. You are spies, you two, spies from the planet of Antar. We know how to deal with spies. Hold them, some of you. We will take them down."

"But the star," babbled Doctor Who. "That great blue dwarf star that will burn you all up. What of that?"

"Now I know you are spies," retorted the other. "Our scientists have been blabbing about this for months now. They have warned us of that nonsense you talk about. Burn us up, indeed! The mighty warrior race of the flying Valerons will not cringe before something in





the sky. A comet, I say it is. Enough. We go down to the city. We have ways with spies in Valerus. Antarians have much to learn from us."

The doctor and the girl threw despairing glances to each other, then they were lifted up and with a mighty thrashing of wings they were borne down the slopes to a plain below. The towers of a city appeared and then the great crowd of Valerons began to settle everywhere over the pinnacles of that city.

"Goddess, you said!" broke out Liz, when they were thrown into an empty room and locked in. "A fine way they treat their gods and goddesses, I must say. Imagine what they'll do to spies, as they are sure we are."

Doctor Who grinned at her and fingered the belt he wore. Still he did not dare to tell her about that little matter of getting back to Earth.

"We've got out of tighter scrapes than this, Liz!" he said reassuringly. "Funny, though, no one seems to be able to believe my story. Not even you. And now not this Valeron creature. But what a race, Liz! Men with wings! A true four-dimensional life! But that star, what about that star? They don't seem to be able to appreciate its menace at all. It must have been in their skies for months, maybe years."

"Just get us back to Earth, Doctor," moaned Liz. "I've had enough."

Food was brought not long afterwards and the man who brought it in stood with folded wings, looking down at them. He was an elderly man, his face quite light in colour.

"You are magicians," he said. "To the Valerons, that is. But to us of Antar you are scientists. Is that not right?"

"You are from Antar?" said the doctor quickly, forgetting the food.

"I put my fate in your hands," was the reply. "Antar has been entirely obliterated by the forces of Valerus. Their spaceships came in thousands and burned our world sterile. I hid on board one of their ships and came here. I once was a scientist and your story has interested me. Tell me, is it true that you came from beyond the stars?"

Doctor Who considered. This Antarian refugee was maybe their only hope now. He did not dare risk this fellow disbelieving him, like all the others.

"We came from a world far away," he said with dignity. "We received over our radio warnings from this world of a terrible menace approaching . . ."

"We sent those calls," said the other eagerly. "In our last moments before Valerus struck, we forget the more real menace in the skies of both worlds. Can *you* do something about the blue star? Can you . . ." Then his shoulders dropped and the wings seemed to lose their lustre. "No, no, it is a star, a vast, burning star . . . there is nothing anyone can do. I am the last of the Antarians, and our twin races are doomed to extinction."

"If we could return to that mountain-top," said Doctor Who eagerly, his eyes on those of Dynil. "There is a thing we can do. We are true magicians."

"You came from beyond the stars," mused Dynil. "Mighty indeed you must be. Come, I will take you there. He leaped to the window high up in the wall and he pulled them up. From the sill he wrapped a hand round each of them and soared off on strong wings that, small as he himself was, were very powerful.

On the mountain-top he deposited them and stood waiting. Doctor Who stared at Liz and then up into the sky. From the corner of his eye he measured Dynil's physique. Elderly, three foot tall, he wouldn't be much of a problem.

He tensed himself for the attack when a scream came from the lips of Liz. She grabbed his hand. "Doctor, doctor, we're going back!"

His body seemed to swell, and again the blackness. Then a great, jarring explosion and they stood waist-deep amidst the wreckage of the wooden bench in the laboratory of UNIT, back home on Earth.

Doctor Who stared into the amazed face of Brigadier Lethbridge-Stewart.

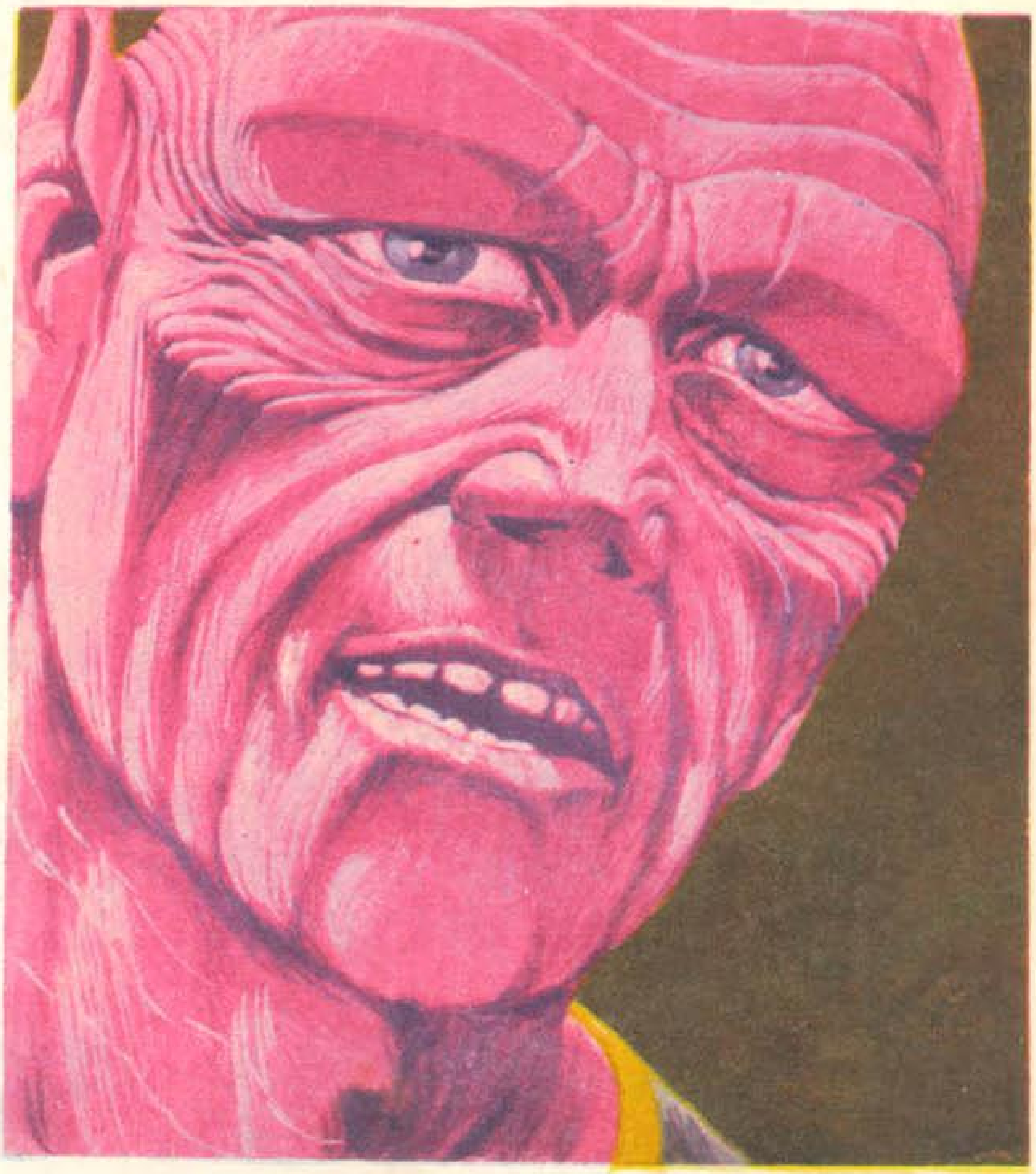
The UNIT Commander was fighting for his breath. "Where . . . what . . .?" he spluttered. "One minute I'm switching this thing of yours off and the next . . ."

"Thank heavens you did switch off, Brigadier," said Doctor Who cheerfully. "Or we'd have been stuck down inside that glass jar for ever, or at least until the blue star obliterated that whole system. How do you feel now, Liz?"

Without speaking, she stepped out of the wreckage and, picking broken glass from her dress, she staggered to the window. Down there was the big yellow car of this madman who had plunged her into . . . what nightmare had it been? But he had brought her back safely, hadn't he? The great clown, him with his stories of worlds on electrons inside glass jars. She closed her eyes. She mustn't believe that . . . she mustn't believe it. It would make nonsense of all she had studied and believed.

"Car's downstairs, Liz," the doctor said gently. "Can I take you home? You could do with a good rest after that affair. I wonder what happened to Fred down there, now. I wonder if that blue star . . ."

"Take me home, Doctor," said Liz weakly. "I've had just about enough of Fred for a while."



LAUNCH DAY
CAPE KENNEDY

Nº3
UNITED STATES
USA
USA
NASA
3

The launching site for the Saturn V moonshots is situated at Merrit Island on the Florida coast adjacent to Cape Kennedy. The gigantic rocket – 363 feet in height and weighing 3,238 tons – which launches the men towards the moon, represents the work of 300,000 skilled engineers, technologists and scientists.
The three booster stages of the rocket are transported along waterways to the launching site, where they are assembled inside the Vertical Assembly Building – the largest building in volume in the world. The mobile launch pad on which it is erected is then driven to the actual launching site three miles away.
Its first stop is at the arming tower where all the sensitive explosive devices are armed. At the launch site the tower and rocket are lowered to the ground on hydraulic jacks and counting starts.

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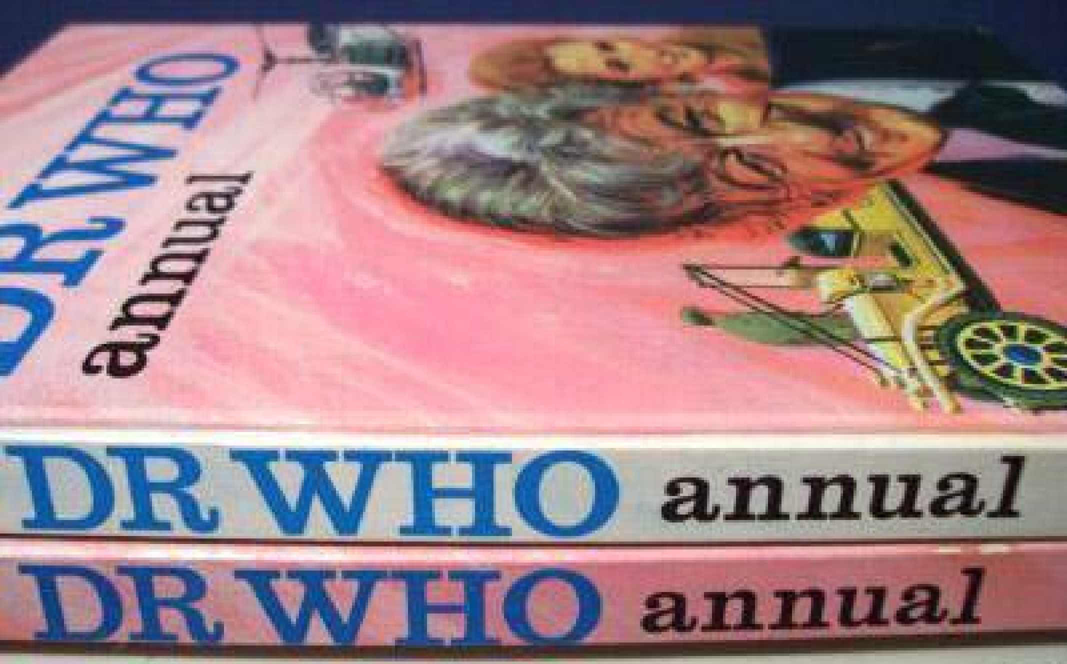
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